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EDUCATIONAL ADMINISTRATION & SUPERVISION

Announcement by the Editors

NO longer does anyone expect a school system, large or small, to run itself. Once in school affairs there was no need of frequent and professional interchange of educational opinion. Now, however, a new era of professional administration of all types of educational activity is upon us. Soon, we can now confidently predict, those school men who are not professional administrators will be the ones who will be called upon to justify their appointment, tenure and practice.

Through indirect avenues of all sorts, and through excellent educational journals covering their special fields, we are gradually amassing a considerable body of empirical results of school practice based upon careful investigations conducted by trustworthy methods.

There appears to be a distinct field for an educational magazine devoted wholly to the thoroughgoing treatment of the multiplying numbers of problems distinctly administrative and supervisory in character. There is an equal need of such an instrument for distributing the evaluated results of technical studies in this general field.

Educational Administration and Supervision will be a *monthly journal* covering fields which can roughly be distinguished as follows: 1. State and county systems of education, including rural education and also educational legislation; 2. city school systems, including chiefly problems of city administration, supervision, management, reporting and educational statistics; 3. secondary education, including problems of organization, administration, inspection, curriculum making, and internal supervision, management and the pedagogy of the different subjects, and including also a consideration of those problems of higher education involving directly the interests of secondary education; and 4. elementary education, with the problems in this field analogous to those cited for secondary education.

In addition to these fairly distinct administrative fields there are those overlapping problems of vocational education and of school extension, the one including agricultural education, and all varieties of trade, of continuation, part-time, and evening schools; and the other including broadly the problems of school hygiene, of the school as a social center, and of the school's co-operative agencies.

The journal of *Educational Administration and Supervision* will undertake, with as well distributed an emphasis as possible, the publication of contributions dealing with such outstanding administrative and supervisory questions in these fields as school men in service and students of school administration will profitably read.

State school officers who are struggling with the issue of free textbooks, the subsidizing of special schools or departments, the certification of teachers, the basis for the distribution of school moneys, the inspection and standardization of schools, the erection of modern buildings; *city superintendents* who are studying the distribution of subject matter by grades, the time limits of subjects by grades, the preparation of a salary schedule, the means to be used in rating and promoting teachers, the relationship that should exist between a school board and the superintendent, the wider use of the school plant, the grading and promotion systems in vogue; *high-school principals* who are attempting to reorganize their schools in the light of shifting social demands, who are attempting to differentiate, interpret, adjust and extend their many curriculums, to provide supervised study, and to direct the social activities of the school; *supervisors* who are interested in improving their teachers in service and who wish to employ units and scales for measuring educational results; and *rural school superintendents*, confronted as they are with a multitude of complex problems, many of which must be solved at long range—all these will find this journal devoting itself to the very questions which they are daily confronting.

THE EDITORS.

Fundamental Problems in Educational Administration

Ellwood P. Cubberley
Professor of Education, Leland Stanford Junior University

EDUCATION, with us, was left to the States, and the States, not quite knowing what to do with the new function, early passed it over to the communities to handle. Many of the early schools were purely community undertakings, and for more than half a century the district system ran riot, and communities provided what they saw fit to provide. Within the last three or four decades, and particularly within the last two, a new attitude has begun to characterize the States in this matter. A consciousness of a State purpose has become clearer; the need of curtailing local privilege has become more evident, and the demand for a more businesslike and a better professional organization of the administrative side of our school systems has begun to make itself felt. New social and economic problems have been pushed to the front by the great changes in the character of our population; industry and commerce have begun to demand service from the schools, and a rural-life problem of large significance, which demands a fundamental reconstruction and redirection of rural education for its solution, has suddenly become prominent.

The result of these and many other movements has been, for perhaps the first time in our educational history, to focus the attention of many, interested in the development and perfecting of our educational organization, upon the working out of some more rational plan for the organization and administration of public education in our States. The old-type half-year course in school administration in our normal schools and colleges, given by the professor who told how he managed things when he was superintendent at Oldville, has been replaced by a more intensive course in the principles of school administration, and given by a student of the subject rather than by an old and successful practitioner. Professorships of school administration have been created in our leading universities; attempts to determine standards for measuring efficiency or inefficiency have been made, and the old, almost exclusive attention to the problems of the city is at last being replaced by parallel courses, dealing with the problems of State and county school organization and administration as well.

The present, accordingly, seems a most propitious time to inaugurate a new Journal designed to deal especially with the problems of educational administration. Such a Journal should render a distinct service not only in serving as a means for the interchange of ideas between students of the subject and practical workers in the field. but should also prove a potent force in the evolution, throughout the nation, of a profession of school supervision, as distinguished from the political trade which has characterized so much of our administrative work for so long. The administration of education has been, for decades about where our army and navy were before the establishment of West Point and Annapolis, or where law and medicine were before the development of the professional schools. The old and successful practitioner, who has served a long apprenticeship in the ranks, has been the one to be brought to the front, rather than the trained worker who knows what to do and why it should be done. There is at present a strong and a growing demand for a change in this condition, by the substitution of scientific training for a large portion of the so-called experience; scientific measurement for the old rule of thumb; a distinct merit basis for the preferment of workers, to replace the inefficient political basis, and an extension, to the fields of county and State educational administration, of the same principles that have been found most successful in our city administrative experience. In ministering to this demand this Journal should render a distinctly national service.

The State being the unit for educational administration with us, the study of school administration logically begins with the State and the county. This is a distinct and an important field of educational administration which has been too long neglected. Given over, as both of these fields have been in most of our States, to the field of partisan politics, but little attention has been given so far to the problems surrounding State and county school organization and administration. Yet, in the far-reaching influences which such exert on educational practice, the fields of State and county school administration are of even deeper significance to the student of educational administration than is the more specialized field of city school administration. The problems are more fundamental, they concern the State as a whole rather than the locality, and the opportunity for constructive educational statesmanship by those who know is not surpassed in any other field. The State and county problems, too, underlie many of our city problems, and a study of them serves to make clearer the relation of the city to these problems and the place of the city school unit in the educational scheme. Not until students of education become thoroughly cognizant of the educational principles involved in State and county school organization and administration as well as in the city can we expect the legislator and the citizen to champion them and help to incorporate them into common practice.

Much of the present confusion existing in the relation of communities to the State and the State to communities arises from a lack of any clear conception of the reciprocal rights and duties involved. Much of our educational legislation is also characterized by the same lack of conception of relationships. Some city wants something, and gets it, regardless of the effect on the general good; the State sees a defect, or a failure to respond to obligations and responsibilities somewhere, and compulsory, restrictive, or even drastic general legislation ensues. Instead of using legislation to stimulate and then leaving communities options, the State too often tries uniform compulsion instead. The result may possibly be progress, but it is along the lines of a uniform mediocrity, pulling up the lowest and altogether too frequently holding back the best. Directed, as our school legislation has too often been in the past, by the concensus of opinion of the mass of our schoolmen in convention assembled, it has altogether too often been characterized by that same desire for a uniform product which has been one of the weaknesses of our schools. Communities, like children, vary greatly in their needs, and a uniform treatment is inevitably repressing and deadening to those most likely to reflect the greatest credit upon the State, be they school systems or school children.

Turning first to the field of State educational organization and administration, what are some of the more important administrative problems in this field? Leaving aside for the present the very important problem of how best to secure a rational administrative reorganization of our State and county educational offices and departments, with a view to the elimination of politics and other extraneous considerations and the substitution of merit and efficiency in their stead, let us pass directly to the larger and distinctively State administrative problems confronting the educational organization of the State.

Certainly the first will be the evolution of a somewhat clearly conceived and more or less clearly defined constructive State educational policy. In many of our States this seems to be almost entirely lacking, and, so far as it seems to exist at all, it seems to be carried forward by the teachers of the State rather than by the educational authorities representing the State. Perhaps, after all, such a State educational policy can only be expected as the result of careful thinking on the distinctively State educational problems which we enumerate later on. If so, then in but few of our States has there been such thinking, for in but few of them do we find, in examining their educational history, evidences of any well-thought-out educational policy, carried out over any long period of time. Of all of our States, Massachusetts certainly stands forth as the one which shows most evidence of having followed, and for the longest time, a somewhat definite policy and plan in dealing with the cities and towns of the State; and much of the educational progress that Massachusetts has made, and made with little or no State aid to serve as a stimulus to action, and often in opposition to the strong conservatism of the towns, has been due to this relatively well-thought-out and consistently-followed State educational policy.

Such a guiding State educational policy is almost always a result of capable and somewhat continuous leadership at the top, rather than of mass efforts at the bottom, and it is this capable and sustained leadership at the top in which our American States have so far been largely lacking. The State oversight and control provided has been clerical and statistical rather than profesional in its nature and purpose; legislation has been remedial and of a patch-work type rather than constructively reorganizing, and often the State oversight has been of such a *laissez-faire* nature that the school systems resulting have been merely a loosely integrated collection of a large number of local and largely independent systems, each intent upon its own interests in matters of legislation, instead of a State school system in any real sense of the term. The conception of the State as an active, energetic agent, working constantly and intelligently for the improvement of educational conditions throughout the State, instead of acting as a passive statistical agent and tax collector and distributor, is one which until the past few years has been present in but few of our American States.

Under our American system of educational organization and administration much has been left to the community to determine and to put into force. The theory has been to leave as large an option and as much power with the local administrative units as they can use wisely and intelligently. When education was a small and not an especially important matter, this was much less objectionable than is at present the case; under present conditions too much liberty may mean weakness rather than strength.

There is a certain demarcation between the powers and duties of the State and the powers and duties of communities which ought to be observed in all educational legislation and all State administrative control. This line of demarcation will vary somewhat in the different States, according to the degree of educational progress already made and the peculiar genius of its institutions, and with the type of subordinate administrative unit involved, but the line nevertheless exists in all. In many matters, such as the kind or kinds of schools which must or may be provided, the length of school term which must be maintained, the nature of the instruction required, standards for the certification of teachers, school supervision to be required, sanitary standards to be maintained, equipment to be provided, rates and forms of taxation to be imposed, minimum salaries to be paid, compulsion of children to attend, and child-labor laws, it is essentially the duty and the business of the State to determine the minimum standards which will be permitted, and perhaps classifying communities into groups and requiring different minima from each, but leaving to any community the right to exceed these minima if it desires to do so. From time to time, as different educational needs and conditions may seem to require, it is also the business of the State to raise these minima for any or all of the groups, and in doing so the State should always act on the basis of what is best and now possible for the children of the State, rather than on the basis of what the poorer communities can do or provide. Such legislation will frequently involve reciprocal obligations on the part of the State, and these the State, if actuated by a wise educational policy, will expect to meet.

The State, too, in carrying out an educational policy, should study out means for stimulating communities to individual educational activity in new or additional directions. This is more important than compulsion after the minimum standards of the State have been met. Certain communities can and ought to do more than others, and this should be kept clearly in mind by the State. The common tendency toward an unnecessary uniformity, which too often follows a centralization of control, and which is so stifling to community activity, should be carefully avoided by the State. To give large liberty to communities in non-essentials, and to free the larger and more progressive communities from a uniformity perhaps necessary for small and more backward communities, ought to be an essential feature in a wise State educational policy. To find out what can be safely left to local control, and then to pass this down, is as important a feature of State control as is the gathering up by the State of functions which communities can no longer exercise intelligently or well.

There are a number of other distinctively State educational problems, some of which require careful study and adjustment to local conditions. Others require years of wise educational direction before much in the line of visible results can be seen. A mere enumeration of these is all that can be given here. To each, however, certain fundamental principles apply, and action taken contrary to these fundamental principles is action which sooner or later will need to be reversed. These special State problems group themselves about the questions of the nature and extent of State oversight and control; the extension of educational advantages; proper methods in taxation, and in the apportionment of funds; the provision of adequate professional supervision for all schools; the best subordinate unit or units for local control; the large social and educational problems surrounding the rural and village school; industrial and vocational training; the material equipment of schools; health and sanitary control; the State and the teacher; the State and the child, and the relation of the State to non-State educational agencies.

Each of these major problems in State and county educational administration deserves special study, and when clear and provable principles of action or standards of requirement have been formulated, such should be of much value of guiding State educational authorities in the administrative control of the school system of the State. It should be one of the distinctive missions of this Journal to assist in the formation of such principles of action and standards of requirement for each of these major administrative problems.

Turning now to the educational problems of the city, we meet a more specialized case. The city must be regarded as a special form of the district unit—a country district or a village grown large—and which, because of its size, the character of its population, the complexity of its interests and its peculiar needs and problems, must be given special powers and treated somewhat as a special case. While a part of the general State organization, our cities, nevertheless, represent special as well as somewhat individual problems, to which uniform standards and mass requirements cannot be applied if the best educational results are to be expected. The minimum standards of the State the cities should, of course, meet, but large freedom should be given them in exceeding these State minima, and in the choice of the tools and methods by which they are to accomplish the required results.

To keep the school systems of our cities in touch with community needs and expressive of community wishes, and at the same time safeguard the systems from direction by inefficient hands; to preserve the schools from the deadening rule of a State bureaucracy, and at the same time to protect them from political exploitation or neglect; to leave to the cities as large a liberty in the selection of tools and methods as is consistent with the securing of the results desired by the State, and to see that the school systems are adequately financed, instead of being subordinated to the pressing demands of other city departments—these are the primary problems in the relation of the State to the city school districts subordinate to it. The State, as the guardian of the educational rights of its future citizenship, must see that local governments do not override these for local or political or selfish ends.

In the working out of these primary problems a number of secondary problems arise, chief among which are the best form of organization of the board for city school control (city board of education); the powers and duties which should be given to such a board; the powers to be guaranteed by law to the superintendent of instruction for the city school system; the subdivision of executive functions by the creation of other executive departments under the board of control; the proper relation of these executive heads to the superintendent and to the board; the general business administration of the schools; the financial powers to be given city boards for both annual maintenance and plant expenditures; the extent to which cities, with their larger per capita wealth, shall contribute to the general support of the State educational system; the scope of the regular instruction, and the extra educational activities to be demanded or permitted; special requirements as to the city school plant; the special city problems relating to the city teaching corps; the degree of freedom to be granted the city in matters of instruction, and in the choice of methods (courses of instruction) and tools (textbooks and other teaching equipment), and the classification of city school systems, on the basis of size, or some other basis, for the determination of extra requirements and larger freedom for the larger city school organizations. The prime purpose of the State in all such matters is not so much to impose its will as to stimulate to educational activity; not so much to insist upon the State's methods as to insure satisfactory final results.

It should also be one of the distinctive missions of this Journal to assist in the formulation of clearer principles of action and more definite standards of requirement for each of the primary and secondary problems of city school administration enumerated above, to the end that we may come in time to have perfectly definite professional standards in administrative matters which can be given to the laymen and, in turn, enforced in legislation.

One other large and very fundamental problem, touched upon in a general way in the preceding pages, remains for specific mention here. It is one also toward the solution of which this Journal should render yoeman service. It is the problem of how best to secure a rational administrative reorganization of our State and county educational offices, with a view to the substitution of merit for politics and the introduction of a better administrative unit for both educational and business organization and administration. In a volume recently published,[1] the writer has pointed out, in some detail, the urgent need for such a reorganization, and in still another volume[2] he has shown, in legal form, how such a reorganization may be accomplished. Here little more than special emphasis upon the need for such a reorganization and reconstruction of our administrative machinery can be given. If our rural and small village schools are ever worthily to serve the communities in which they are located, and if State and county school administration is ever to become professional to any high degree, a thoroughly fundamental educational reorganization of our county school systems must first be accomplished. The essentials of such a reorganization are the thorough subordination, and, to a large degree, the abolition of the district system of school control; the establishment, in most of our States, of the county as the educational unit, and the absolute elimination of partisan politics from the control of both county and State educational affairs.

Probably no position within the gift of the State has greater possibilities for constructive statesmanship than the position of superintendent of education in one of our American States. As a position it is, potentially, a more important one than that of president of the State university. That it is not so is a matter of common knowledge, and it is largely because the office has been for so long cursed by partisan politics, and because political expediency, rather than educational standards, have been the measuring stick most often applied in its work. Similarly, the position of county superintendent of education is, potentially, a more important one than that of superintendent of schools in the largest city, or principal of the best high school in the county, and it should be able to call to its service those who rank among the best trained executive officers in the State, but seldom has it been regarded as other than a temporary political job. To change these conditions is one of the important tasks which lies just ahead.

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[1] *Rural Life and Education.* A study of the rural-school problem as a phase of the rural-life problem. 367 pp. Houghton-Mifflin Company, Boston, 1914.

[2] *State and County Educational Reorganization.* The revised Constitution and School Code of the State of Osceola. 257 pp. The Macmillan Company, New York, 1914.

The American School Superintendent*

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THE American school superintendent is the recognized leader of a vast army of 500,000 teachers and the director of the destinies of a vaster army of 17,000,000 children. Endowed with authority by common consent, elevated to a position of high leadership, entrusted with the management of a gigantic machine in which rests the hope of every community and the welfare of millions of children, the potential inspirer of a life of true professional service in thousands of teachers, the school superintendent, existing nowhere else among the civilized nations of the world, is clearly the product and creature of social and industrial changes in American civilization during the nineteenth century.

The public schools over which he now presides did not spring into existence fully organized. They do not represent the dream of any one reformer, nor of any group of reformers. They grew slowly through the isolated efforts of scattered communities, and in the face of powerful opposition. Their story is as interesting as romance. The heroic fight of colonial pioneers was a fight for individual liberty and local self-government. A true democracy to them meant the direct participation of each citizen in the affairs of administration. With the spreading of the population over wider areas, and the forming of new neighborhoods, the early colonial authority which had been vested in governors was superseded by a highly decentralized form of government. Each neighborhood possessed an individuality and uniqueness; each had its own courts of law, its own administrative procedure and its own forms of education. Each community was a law unto itself.

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*Read before Illinois Schoolmaster's Club, Peoria, October 30, 1914.

In general, the schools were held in private homes and were supported by the voluntary contributions of the parents or guardians of those who attended. The schools were purely partnership affairs.

During the early part of the nineteenth century silent but powerful forces were at work reconstructing the whole fabric of social and industrial life. Towns were increasing in number, roads were being built, trading centers were multiplying, forms of transportation were increasing, and labor was becoming specialized. Coincident with these marvelous changes in the industrial life was the increasing demand in the political life for centralized power and for representative government to take the place of the town meeting. In every field of activity it was evident that popular freedom could be energized through imperial organization; that imperial democracy meant a centralized administration exercised by the people themselves. It was recognized that the so-called interference of a central governing authority, be it a State or the head of a corporate body, really contributed to and made possible local freedom and individual initiative. Only through the operation of such agencies could equality of rights be guaranteed to all. Thus the State stepped in and enacted laws requiring compulsory attendance of all children within certain age limits, stipulated the forms of taxation and the distribution of public moneys for educational purposes, placed uniform requirements upon the teaching population, determined the length of the school year, and the like.

It is not strange, therefore, that these changes should crystallize in the appointment of some officer to assume supervisory jurisdiction over the educational affairs of the State. Gideon Hawley of New York State bears the honor of being the first State superintendent of public instruction in the United States. He was appointed in 1812, and received a salary of $300 a year.* By the middle of the century more than two score of the States had established State departments, consisting either of one man or of a State board. Since then, of course, every State has created some sort of a State educational office.

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*Arthur Henry Chamberlain, The Growth of Responsibility and Enlargement of Power of the City School Superintendent. University of California Press, Berkeley, 1913.

Thus the social and political and industrial movement for the centralization of authority gradually expressed itself in education in the establishment of State educational offices, and in holding the officials directly responsible through legal action or by public opinion for the faithful and efficient discharge of their duties. The establishment and growth in power of city school superintendencies was closely connected with the growth of cities, the increasing diversification of their activities, and the consequent problems arising. The phenomenal increase of cities, the flocking to their confines of many born and reared on farms and the multitudes of foreigners who reach our shores made them the clearing-houses for humanity. With a mixed population it is easy to understand how educational problems multiplied. The need for individual authority was manifest in the field of education as well as in the various branches of municipal government. For progress in the management of finance, police, fire and other civic and municipal departments was made along with that of education. With the crowding of children in schools, and the erection of new buildings, the buying of supplies, the introduction of systems of gradation and promotion it became obvious that the economics of the situation demanded system and centralization. A superintendent was needed to administer to the schools as truly as managers were needed in mercantile or manufacturing establishments.

There is some doubt as to which city enjoys the distinction of having the first superintendent, but it seems that both Buffalo and Louisville created the office in 1837, and that Providence followed in 1839. Springfield, Mass., elected a superintendent in 1840; New Orleans, in 1841; Rochester, in 1843; Columbus, Ohio, in 1847; Syracuse, N. Y., in 1848; Baltimore, in 1849; Cincinnati, in 1850; Boston, in 1851; New York City, in 1851; San Francisco, in 1852; Chicago, in 1854. These cities pointed the way for a great company of others.

One of the most troublesome and vexatious problems with which superintendents were early concerned was that of managing large boards of education. It was considered more democratic to have large and representative boards, elected by the people or appointed by the Mayors, for such an organization was presumed to bring a wide experience and wisdom to bear upon educational affairs. Theoretically, these boards' members were chosen because of their peculiar fitness, but actually they were often the creatures of petty politicians. At one time Philadelphia had a board consisting of 500 members, and Pittsburgh one of 234 members. To remove the schools from political jobbery and to eliminate the grosser evils resulting from election by wards, here and there the board members were appointed by City Councils. But the preponderance of the testimony regarding this plan is that it is unsatisfactory. Although there still exists a divergence of opinion as to the best method of securing a city school board, the weight of the testimony favors a commission chosen without regard to party affiliation or ward location, such a commission being empowered to employ a school superintendent.

The presumption at the present time is that the superintendent whom they employ is an educational leader, a man who is qualified by training, experience and expert judgment to direct aright the educational policies of the system. The extent to which he possesses these qualities to an unusual degree merits a careful examination. Mr. E. L. Lawson, a graduate student of the University of Illinois, has been engaged upon a careful statistical study of the qualifications and expectancy of the American School Superintendent. He has secured the natural history of more than 600 superintendents in cities ranging in population from 2000 up.

I have compared his returns with certain studies of my own. in the hope that I might arrive at some information that would enable us to prophesy with considerable accuracy with regard to the future of the prospective school superintendent. If a young man were to appear before you with the question, "Granting that I have the ability and common sense of the average school superintendent, how much training should I have to be insured of an expectancy of five years? Of ten years? Of twenty years? If I am a college graduate and otherwise the equal of the ordinary superintendent, what salary may I expect the first year of my tenure as a superintendent? The fifth year? The tenth year?" If you were confronted with these questions, could you answer them definitely and exactly? You would be compelled, of course, to answer them in the same way that an actuary would determine the expectancy of a thirty-year-old man. If the actuary told the truth, he would say to any candidate for insurance, "I cannot tell you what your expectancy is, but, if you are thirty years old, I can tell you what it is for men of your age." Similarly we should be able to say to our young candidate for administrative work, "We cannot tell what your expectancy is, but we can tell you in terms of tenure and salary what the expectancy of the average superintendent is." That should be valuable advice for him. If he has as much ability and common sense as the ordinary superintendent, then he knows the price he must pay in terms of training to have as long a professional life. In other words, it is within certain limits, of course, possible for him to determine his station in the array of superintendents. It is to this extremely practical aspect of our problems and its implications that I wish to direct your attention now.

Naturally we are interested in a number of qualities that bear distinctly upon this question—among others the physical qualities of the men elected for superintendence. They are taller on the average than the Iroquois Indians, the Polynesians, American, Irish, Scotch, Swedish or Norwegian soldiers or members of the English Athletic Association. They are excelled in stature only by the natives of Patagonia and London policemen and firemen. I am happy to report, however, that I have been unable to find any well-defined correlation between stature and salary or between stature and the size of the town. It seems that short men quite as frequently receive as large salaries as tall men, and that short men are quite as frequently in large towns as tall men. The fact remains that boards of education select men as superintendents who are slightly above the average height, as it is the fashion for school superintendents to be 70 inches tall; they are also slightly heavier than the average man.

These facts leave no room for doubt that there is a nation-wide selective process in operation. There are many men in this country, and ofttimes intelligent, too, who are less than 70 inches tall and weigh less than 170 pounds. The selection, it is true, is of crude sort, but it reveals a very positive tendency. It perhaps is the survival of an earlier notion that teachers should be men of strength and physical vigor. That size and shape are assets cannot be successfully denied. Such standards can be displaced only as an awakened public conscience requires professional training of the recruits and as our craft spirit and code of professional ethics induce us to reward those of expert knowledge and skill, regardless of their physique.

In contrast with the teachers in rural schools, in towns and cities, or in high schools, the superintendents of the country are unusually mature. Fifty per cent. of them are more than 41 years of age. Ninety-three per cent. of them are 30 years of age or older. A random sampling of the men school teachers of this country, irrespective of the type of position they hold, shows the median age to be 29 years. Thus superintendents are 12 years older on the average than men teachers in general. These figures increase in significance when we remember that half the men now holding superintendencies began teaching when they were 20 years of age or younger and served an apprenticeship of full 10 years before they were elected to superintendencies. The world requires a longer apprenticeship of men who are to serve it in an executive capacity in the school than it requires of expert workmen in any of the skilled or artisan trades. Occasionally a man is promoted to the high position of administering a system of schools because of political affiliations, fraternal relationships or blood-kin considerations, but in the main these high positions are earned. The men occupying them have demonstrated some peculiar strength or ability in their 10 years or more of pre-administrative experience. It does not always follow that because one is a good disciplinarian, an expert drill master, a good speaker or writer, or an old teacher that he will therefore be a good superintendent, and yet these qualities are the very ones, in the past, that have been responsible for the advancement of many a young teacher to an executive position.

In general, it is the part of wisdom for society to take the most mature of its teaching population and place them in its most responsible positions. It takes men who have grown wise in the school of experience, and who have attained that maturity and stability necessary to guide, direct and counsel the great multitude of recruits who flock annually into the teaching population. We have more than 100,000 newcomers in the teaching force of this country every year. Less than

25,000 of these have had any training beyond the high school. Not only is the great body of these practically untrained, but the great majority of them are not dominated by a professional motive. Teaching to them is merely a means of earning a livelihood. It is an easy step from the schoolroom as a student into the schoolroom as a teacher, and, moreover, teaching is universally regarded as respectable. The eternal problem of the superintendent is that of taking these immature girls and beardless youths and creating in them a spirit of professionalization. He can never solve so long as conditions remain unchanged, for nearly one-fourth of the entire teaching population leave it every year. It must be true that only a small number of the 500,000 people engaged in teaching look upon it as a profession. Yet these few are ones who have preserved the standards and have prevented a dead level of uniformity from existing in it. If the professional attitude of a group may be measured by years of service, then the hopes of teaching as a profession must rest mainly with the superintendents of the country.

However, as a warning I should say that the superintendents should not think too highly of themselves. There are some respects in which they are no better off than the teachers, some in which they are worse, and some in which they add as little to the sum total of a craft spirit. One of these relates to the permanency of superintendents in a given position. Returns from over 1300 superintendents in cities of 4000 and above collected from every State in the Union show that superintendents have a median tenure in a given position of four years. This means that there are as many superintendents in cities of 4000 and over who have had three years or less of experience as there are who have five or more years in their present positions. Put in another way, it means that one-fourth of the superintendents of the large cities of this country become vacant annually; that enough changes occur in four years to equal the total number of superintendents. There is nothing to be proud of in this.

That it does not give the whole picture, nor the true picture, of the situation is seen when we include places of less than 4000 in population and break the distribution according to the size of the places. If returns from three States in the middle West can be regarded as typical of the middle West,* then the tenure of superintendents in cities of more than 15,000 population averages 8.7 years; in cities between 10,000 and 15,000, 4.7 years; from 5000 to 10,000, 4.2 years, and from 3000 to 5000, 4.3 years; from 2000 to 3000, 3.8 years; from 1000 to 2000, 3.5 years; from 500 to 1000, 2.3 years. Putting these figures in round numbers, the typical superintendent in cities of more than 15,000 has an expectancy of 9 years; in cities between 3000 and 5000 his expectancy is from 4 to 5 years; in cities from 1000 to 3000, from 3 to 4 years, and in towns of less than 1000, from 2 to 3 years.

Much as we talk about adjusting the school to community life, of bringing about a co-operation between the home and the school, of making the school a factor for civic progress, the ordinary school teacher and the ordinary superintendent seldom remain long enough in a given place to be instrumental in the accomplishment of these results. There are enough changes in four years in a typical American graded school to equal the total number of persons teaching in it; enough changes in the typical American high school every two years to equal the total number teaching in it, and enough superintendents shift positions every three or four years to equal the total number of superintendents in this country. The teachers of this country, from those who enjoy the best executive positions to those raw recruits who are getting their initial experience in the county schools, are a nomadic lot. They are constantly moving or seeking to move. More than one-half of the teaching population do not remain in a given community long enough to leave behind them a tradition for worthy intellectual work. They leave before they can be safely entrusted to vote for citizens for local offices. Small wonder that many communities regard teachers, particularly high-school teachers and superintendents, as a species of culture transients who are to be tolerated and treated with respect, but who are not to be accepted as community leaders.

I am perfectly willing to admit that teachers alone are not to blame for this anomalous situation. A parsimonious public often blocks professional progress and interferes with its own interests and advancement.

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*From an unpublished study by Prof. W. A. Jessup, University of Iowa.

Usually, the only way for a teacher to be rewarded is to move. And almost as frequently that is the most expensive thing a community can permit. It is this blindness on the part of the communities to their own welfare, their unwillingness to compensate the laborer according to his worth, that is responsible for this restless, roving disposition that grips the teachers of today. Granted that teachers should have the opportunity to move, it should also be granted that merit should be rewarded far more frequently at home than it is. From my own experience I can recall many instances where very competent teachers and superintendents have changed positions because of salary increases ranging from $50 to $100 per year. They were compelled to change if they ever expected to get more money. New teachers and new superintendents were employed to take their places. No matter if the newcomers were as able as the old ones, they could not possibly be of the same value to the community until they had remained there as long as their departing professional friends. The smaller schools suffer most, for they are the eternal training ground and experiment stations for those who are gifted or well trained or ambitious. Until an aroused public is interested in this problem communities will continue to be guilty of the grossest educational waste by permitting the competent to move on with the incompetent.

But no sane observer can put all the responsibility for this situation upon an uninterested public. The notion of advancement is so associated with moving that it has fairly become a mania with some of our friends in education. It's a strange psychology that permits a superintendent to admonish his teachers of the handicaps due to changing positions and of the esteem in which they will be held if they will only remain another year or so when he at that very time is restlessly seeking for information about vacancies and is a candidate for every one where he thinks he has a ghost of a chance. As a class of people the superintendents of this country in this particular are not practicing what they are preaching.

We are in great need of a body of people preaching the necessity of making good on the job. I am inclined to think that if more of us stayed until we had demonstrated that peculiar fitness for administrative work of which we boast, more of us would be adequately compensated. We need more men who are sought, and not so many seekers. It is comparatively easy for men to distinguish themselves in the field of education. Whenever a man remains long enough in a given position to demonstrate a theory, his reputation soon extends far outside the circle of his immediate acquaintances. It quite frequently happens that the local community is willing to pay well to keep him. There will be fewer failures in the large places when there are more successes in the small places. There will be more men worthy of promotion when more men have made good on the job.

We are all familiar with the tremendous losses that occur because of the extreme mobility of the teaching population. First, there are the losses that occur to the mover. He breaks the ties of ripening friendships; he leaves behind a task half finished, a problem but partly solved, and instead of acquiring property he may lose or be no better able to accumulate a competence for old age because of increased expenses. The danger is ever present that the itinerant superintendent will become blasé to the value of friends outside of the teaching population, and that the feeling of satisfaction that results from his change will completely stifle the feelings of remorse over leaving work undone.

The transiency of superintendents is often accompanied by serious wastes to the school system itself. The new superintendent frequently acts upon the assumption that a complete reorganization of the administrative machinery of the school is essential to success. Wherever this means a wholesale adoption of new textbooks, a radical revision of the course of study or the complete rejection of old forms of management, waste is sure to occur. It is not necessary for the new superintendent to criticize adversely all the practices and ideals of his predecessor. It is not necessary to do the new and odd thing to succeed. Every superintendent learns sooner or later that it is wise to cling to some of the things that have been sanctioned by a long and successful experience.

No one should misunderstand my motive or my statements in this part of my description. Sometimes the only way the struggle for existence can be ameliorated is by changing positions. That greater service may be performed, promotion should always be one of the rewards teaching offers to every ambitious candidate, but this offers no excuse for one to engage in flirtations with new positions. My special plea is that advancement to higher economic levels without change of position should be made more frequently the basis of a recognition of merit and of efficiency in teaching.

Teachers, like every other class of the world's workers, must earn their own way. The salary they receive when contrasted with the earnings of men and women in other lines of professional service is a rough estimate of the value the public sets upon teaching. Until some teachers receive $50,000 and $100,000 a year and are given permanent homes, teaching is not likely to receive the rating it deserves. Whatever we can do to hasten such an educational millenium is time and energy well spent. It is true that this ideal will never be fully realized in our day, but we must remember that progress in any line or calling is built upon the struggles and personal sacrifices of earlier generations of workers in that same field.

There is no division of the teaching population of which salary is better criterion of efficiency than superintendents. They are not subject to a salary schedule. Free competition prevails among them. It must be admitted that in a given community where there is no salary schedule differences in salary measure roughly differences in teaching efficiency. It is also true that the variation of the salaries of superintendents in cities of a certain class is a gross indication of differences in ability and skill among the superintendents of those cities. The very fact that a man enjoys a high position is, generally speaking, prima facie evidence that he possesses some rare skill or unusual strength. Before we condemn those holding better positions than we as being unfit, poorly qualified or inadequately trained, we should look beneath the surface and survey the whole situation to see if we cannot discover some fine quality there that superintendents universally need.

The world not only pays a superintendent somewhat according to its estimate of his worth, but it takes into consideration a number of factors in determining his value. One of these contributing factors is the length of his experience. A comparison of the salaries paid superintendents furnishes a fairly accurate registration of the value American people set upon experience. If a perfect correlation existed between salary and experience, each additional year of experience would be accompanied by a corresponding increase in salary, and the ratio of the increase in experience would equal the ratio of the increase in salary. That each additional year of experience does not call for a fixed additional increase in salary has been shown by a number of studies. The correlation for high-school teachers is almost perfect for the first four or five years; for teachers in general, it is almost perfect for the first five or six years. A similar situation prevails among superintendents. There is no evidence of any relationship between their experience and their salaries after the first seven years. By this I do not mean that salaries are never increased after this time. Such increases as are made are due to increased preparation or to personal achievement rather than to mere experience. A man who has accomplished nothing or who has made no additional preparation for more distinguished service will make little headway in seeking a new position after the first six or seven years of his experience.

How much of an annual increase can the average school superintendent expect during these early years when he is proving himself? I regret to say that the average annual increase is a little less than $50. In other words, if the initial salary of the young superintendent is $1200, he may hope to be drawing at the end of seven years a salary of $1500. If he starts at $1800, in seven years he would have a salary of $2150. Such figures as these should be presented to aspiring young superintendents who have visions of buying bank stock, railroad bonds and paying a high income tax.

It is difficult to estimate the relationship that exists between salary and the amount of training superintendents have had. Any table constructed to show this relationship shows that superintendents with the same salary vary from nine to ten years as to training, while those of a certain training vary widely in salary. This leads to the inevitable conclusion that differences in people are quite as responsible for differences in salary as are differences in training. Salary does not become an important selective agency or objective measure of teaching efficiency or executive skill until after the fourth year of schooling beyond the eighth grade has been completed. Then there is a high positive relationship. The increase is about as follows: Men teachers with one year of training beyond the high school average $75 more annually than high-school graduates; those with two years average $200 more; with three years, $400 more; with five years, $600 more. If they are executives, the increase is somewhat greater, but the extra amount paid is probably due to a difference in the character of the position held or to the peculiar merit of the person rather than to training.

The superintendents of this country are conscious of the need of a better trained class of executives. Here in Illinois, for example, they average no more collegiate training than the high-school teachers whom they supervise. Nearly 40 per cent. of the superintendents of this country have had less than four years' collegiate work. Some of these men have risen by sheer strength or superlative ability, but it must be admitted that it is the fashion of today to give the preference to the man of training. The world is disposed to invest in those who invest in themselves, and in the long run the amount the world invests is proportioned by the individual's investment. Only about 22 per cent. of the superintendents have a master's degree, and less than 1 per cent. have received the doctorate. Let the initiate not be deceived in this matter of training. There never was a time when well trained people were in such demand. The near future will see an increasingly larger percentage of highly trained men in the better superintendencies. This last year the University of Illinois was asked by boards of education to assist in filling five important superintendencies by naming men who had been trained both academically and professionally. This, of course, is but a straw in the wind, but it is, I believe, an indication of what will be common practice in the near future.

Private information from 500 superintendents in regard to their training reveals the fact that almost every conceivable college subject was selected by these superintendents as a major subject. More of them were trained in history than in any other subject; education stands second; mathematics, third; Latin, fourth; English, fifth, and science, sixth. When the major subjects are regrouped according to the time these men became superintendents, education as a major branch takes the lead. One-fourth of the younger superintendents have taken their degrees either in education or psychology. Here again we have evidence of the type of administrator the future will demand.

The argument that better trained men will be demanded in the future is indicated by the manner in which the functions of the school superintendent have differentiated. At first the superintendent was regarded as a manager. His duties consisted in handing out the salaries, collecting the fees, preparing reports and giving directions for class management. A little later in the history of education school organization was regarded as one of the special modes of school administration. Our superintendent then sought a more definite arrangement for everything. School efficiency was popularly supposed to consist in having a place for everything and in having everything in its place. There were added to the superintendent's duties as manager such additional ones as grading the schools, preparing programs, making a course of study, assigning teachers, introducing a promotion system, and the like. At a still later time, although now comparatively recently, attention was called to and emphasis placed upon certain other aspects of school administration that yielded rather readily to public pressure. Consequently, the superintendent of the school concerned himself with the adjustment of his school to the community, and a multitude of situations outside the school began to attract him. Mother's Clubs, Parent-teacher Associations, Art Associations, Commercial Clubs, Labor Unions, City Councils and Town Boards now distracted the attention of the superintendent from the organization and management of the school. Briefly stated, the superintendent gave less attention to the material aspects of the school and more to the human elements affecting community leadership.

But in all these things—those of management, of organization, of community leadership—the superintendent had ignored perhaps the most important excuses for his existence—that of supervising the teaching act. Just now we are becoming fully conscious of the meaning of supervision. It, of course, is always united with the other administrative functions, and is frequently sacrificed to them. On the other hand, it is not always distinguished from teaching.

One of the most significant distinctions between teaching and supervision is the difference resulting from their relation to the human factors involved. The teacher makes her adjustments to a single maturity level—the level of the children. The supervisor's adjustment is to a double level—children and teachers. Supervision is therefore more complex, (1) because it deals with more human beings, and (2) because the teacher group is less pliable and willing to change than the children.

The differences between the manner in which supervisors and teachers reconstruct practice is another significant differentiating factor. The teacher's reconstruction is always personal, while the supervisor's is impersonal. The teacher judges success mainly by individual results; the supervisor by comparing the work with other work and standards. The supervisor needs a wider empirical and scientific approach than the teacher. The measures he uses must be comparative measures drawn from practical observation and accepted meanings and established standards.

That the superintendents of the next generation will have more scholarship, will have a broader vision, and will be more sensitive to the failures and successes of their schools, and will be keener judges of instruction is no criticism upon those of the present generation. We shall not only need men who are good managers and good organizers, but men who know how to apply scientific standards and tests for the improvement of the schools. Those who trust to mere experience to bring them the advancement they covet are likely to be disappointed. A liberal academic and a sound professional training will be necessary. The hope of teaching as a profession rests mainly with the trained administrators. May we have an increasingly larger number of men qualifying themselves in higher institutions for this life of leadership and service and fewer waiting in the ranks for a fortuitous turn of the wheel of fortune to give them the promotion they seek! May we have more men with visions, ideals and knowledge ready to take our places as we fall by the way and fewer who are compelled to spend from one to three years as superintendents before they can talk intelligently about the course of study, the measurement of educational results, or of the fundamental principles underlying the structure and practices of the school! Then, and not until then, shall men be rewarded with high salaries; shall we find communities vieing with each other to keep a man, not to let him go; shall teaching be elevated to its proper position among the professions. The fault is more in ourselves than in communities that this ideal has not been realized. The world will respect us in proportion as we respect ourselves. Every time we as cult put the pressure on requiring the newcomers to be better trained than we, we lift the standard and increase the respect and appreciation the world bears for us. The common schools may be the hope of the country, but the hope of the common schools rests with the superintendents. No class of men in any civilized nation has a better chance of improving the art of teaching. More trained leaders is the great need.

The High School Issue

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(Current high-school developments disclose many "issues." The movements looking toward providing Federal and State aid for types of secondary education have made most prominent the fundamental issue of whether or not our prevailing system of secondary education can provide adequately all the kinds of education of this grade that society requires. This situation, involving as it does the most profound educational questions, has, in the opinion of many, received too hasty legislative consideration. The method of this presentation (with apologies to Plato and Berkeley) is to discuss more vividly than mere abstract exposition will allow some considerations which should serve as guiding principles. The well-known Cooley Bill for Illinois contemplates a "dual" system of public secondary education for the "vocational" and for the "non-vocational" pupils after they have completed the elementary school or have reached the maturity of fourteen years of age. It therefore serves to raise the very vital question of proper instructional and training functions of our existing public high schools.

The persons of the present dialogue talk as they have talked in print. In many cases the actual phrases are re-employed here. The author pleads "poetic license" in case the authors disclaim this very literal application of their educational doctrines to the high school. Aside from this special application, he thinks he has not misrepresented their several educational philosophies, references to which are clearly indicated in the footnotes.—AUTHOR.)

PERSONS OF THE DIALOGUE.

Members of the Educational Committee of the State Legislature.

Chairman and Members of Legislative Committee of the State Teachers' Association.

Dr. John Sturm, Pedagogue.

John Dewey, Educational Philosopher.

William E. Ritter, Biologist.

Cassius J. Keyser, Mathematician.

Paul Elmer More, Editor—Litterateur.

Woodrow Wilson, President of the United States.

Georg Kerschensteiner, Director of Education in Munich.

A "bewildered" High School Principal.

A College Professor of Education.

An Advocate of the Cooley Bill.

A Director of a German Gymnasium.

A Headmaster of a French Lycée.

A Headmaster of an English Public School.

A State Superintendent of Public Instruction.

Scene. A Conference Room at the State House, Springfield, Ill., called to consider ''The Reconstruction—or the Duplication—of the State's System of Secondary Education.''

Chairman of the Legislative Committee presiding.

Gentlemen, Distinguished Visitors and Members of the Legislative Committees:

A momentous issue is to be considered by us this evening. Questions of profound educational significance and administrative difficulty are involved. Departing from our usual and, for the most part, necessary practices of logrolling, pooling of inexpert opinions, and balancing of interests represented by our committee membership, we propose to spend one evening upon the merits of the educational issue before us.

May we proceed at once? What basal principles shall guide us in reconstructing the system of public high school education in our State? *What methods* and what organizations of instruction must we provide and secure for our boys and girls between the ages of 14 (or possibly 12) and 18? And, consistent with our decision in this matter, what administrative machinery, both central and local, will best insure for us the accomplishment of our purpose?

I suggest, because of this purely educational character of our meeting, that we arrive at tentative guiding principles by voicing our yeas and nays upon each minor issue as we proceed, thus reflecting and preserving for reference as near as may be the ''general sense'' of this more or less expert body.

We shall proceed. Dr. Sturm.

Dr. Sturm (a sort of pedagogical Rip Van Winkle). Modern Gentlemen and Educators: I have been asleep since 1589 until a few days ago. I am assured, however, by six of the distinguished representatives present that the history of education presents no other type of secondary school curriculum upon which have been modeled any such number of secondary systems as my curriculum at Strassburg, which for 43 years I refined toward pedagogical perfection in turning out graduates adept not only in *Latinitas pura,* but in *Latinitas ornata.* These gentlemen indeed insure me that I have hit upon the essential principle of curriculum building, namely, centering upon one kind of content. This content, as you all know, is

Latin. Exclusively for four good hours every day for 10 years Latin in our famous school was taught, read, spoken and written. Imitation, good memory in reproduction, Latinizing ourselves in the good imaginary Roman atmosphere secured the greatest intellectual endowments.

(The members of the conference are impressed, but in different ways, by this confident old German.)

Dr. Georg Kerchensteiner. I am intimately acquainted with the historical developments in Germany since 1589, and partly agree and partly disagree with the views expressed by our venerable Dr. Sturm.* Moreover, I have personally followed for 25 years the struggle of Prussian higher schools for the monopoly in education. I was keenly concerned in the Kaiser's decree in 1900, settling the question of ''privilege'' and allowing the Realschulen to share with the Gymnasien this monopoly in education. What I questioned, even about this momentous decree, itself an educational compromise, was whether it really represented a movement in the interests of a more profoundly useful State system of secondary education. Since the 1826 controversy of Thiersch and Schulze two theories of secondary education have articulately existed and been strongly championed in Prussia. Thiersch, like our respected Dr. Sturm here present, advocated one pillar for the secondary curriculum and insisted that this should be the classical pillar. Schulze advocated what I shall call the ''steam engine'' method, or securing an ''all-round'' education by driving abreast, as it were, in each boy's mind the classical and the scientific instruction.

In my opinion, sir, future time will justify Thiersch in his *one-pillar basis* for a curriculum, but history will record his mistake in his exclusive advocacy of the classical pillar. The most fatal demand which secondary schools the world over have had to face is the demand for this dream of general all-round education. It imposes such conditions that necessitate cramming the 12 to 18 year old with information only—conditions that make impossible the moulding of an harmonious soul from within. It further implies the equally fatal assumption that we educate all along the same general direction.

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*G. Kerschensteiner: *The Schools and the Nation.* London. Trans., 1914.

To test the sense of this body, I suggest, Mr. Chairman, that we approve, as our first fundamental requirement for reconstructing secondary schools, the principle of circumscribed specialization of instruction. Our first vital educational question is to decide between specialized curriculums, or a general type curriculum.

I believe in a *one-pillar* classical school, or in America or France in one-pillar "curriculums." I believe in the equal value of a one-pillar modern language curriculum, a natural science curriculum, a classical curriculum or equally in a number of one-pillar special vocational curriculums. We want men, not lexicons. Let us not labor under the delusion, however, that the so-called "intellectual studies" only can produce culture. The screw-vice or turning-lathe may also present weighty problems and furnish motives for thorough theoretical research.

Gentlemen, as a foreign visitor I have trespassed upon your hospitality and have become disputatious, I fear. My conviction that I am advocating, not a substitute and alternative for culture, nor a compromise with demands of culture, but really the first essential law of all organization, that a school curriculum must rest upon one pillar, leading to culture through one main department of learning, *of wide range, but unified by a single idea,* is my only excuse.

Chairman. Is there a motion that we vote upon this educational principle?

(All remain serious and thoughtful, but no action is taken.) We shall then proceed with the discussion. May we hear from Mr. More, formerly editor of the Nation?

Mr. More. I agree with Dr. Kerschensteiner that our secondary school must train *citizens* rather than merely efficient civil-service officials; that our students' work must show mastery in some field, and that there are many fields of alluring interest. I could not have supported the proposed motion, however, because I believe the best thing a secondary school can do is to seize upon the best educational material and work it to the utmost.* I believe in an intellectual aristocracy, a natural aristocracy—and in the continued and augmented pub-

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*P. E. More: *Academic Leadership.* The Unpopular Review, Vol. II, No. 3, pp. 32-152.

lic educational provision for the support of this select scholarly class. The unity of this select class is our only means of obtaining the real end of our democracy. This class will and must formulate the ideal of pure humanity and of moral freedom.

Gentlemen, I congratulate you upon having called together this group for this particular purpose of establishing *norms in education,* of stating the purposes of schools. Thus far there has been scarcely a conscious effort to make of education an harmonious driving force. I agree with the English teachers of our Rhodes scholars and with the Prussian gymnasial exchange teachers and with the Carnegie Foundation (Fifth Annual Report) that young American boys and girls are unacquainted with the hard manipulation of ideas, genuine exercises in intellectual gymnastics. They do not know firm reasoning. Even when they grow up and become college professors, they show a singular inability to think clearly and consecutively, and do not exhibit the habit of orderly and well-governed cerebration. Their higher faculty of the imagination has not been disciplined. They have never had the sublime vision. In short, we do not try hard enough to thin out the unmalleable minds and to provide for the entrance of the select into the real nobility of the intellect.

State Superintendent. The speaker's phrases are lofty, but we educational officers must think in terms of the specific courses and combinations of courses for our curriculums, and must suggest desirable curriculum types as guides for 250 or more high schools, on the average, in our different States.

Mr. More. I was for the moment transported to the realm of pure ideas. I will be specific. I mean that we now know that some studies are more effectively educative than others. (Cites investigations to prove that classical students surpass their rivals in all fields where a fair test can be made.*)

In some respects I agree with Dr. Sturm, in some with Dr. Kerschensteiner; but I differ from either on some other points. English, for example, cannot be the backbone of a sound curriculum. There are too many names and dates, too much unsystematic and irrelevant geography and grammar.

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*Op. cit., p. 137.

and too frequent evaporation in romantic gush over beautiful passages. German and French afford some exercises in mental nimbleness, but are scarcely rigorous enough for this single-pillar curriculum foundation. Mathematics and physics require some close attention and firm reasoning, and are an essential part of a curriculum. I am, however, skeptical of the effect of the non-mathematical sciences on the immature mind. The usual elementary and pottering experimentation in chemistry or biological science affords an almost negligible mental grip. My experience as editor leads me to believe that science in itself is likely to leave the mind in a state of relative imbecility. Its students not only lack the graces of rhetoric, but, aside from giving an account of an experiment, they do not think lucidly and logically.

Now, gentlemen, Latin and Greek, not as Dr. Sturm taught them, but as I would have them taught—from their *sheer* difficulty, their organization, the refined mental exercises in discriminating nearest word equivalents, the effort of lifting one's self out of the familiar rut of ideas into so foreign a world—act as the only supreme tonic exercise to the brain. Their surpassing educative possibilities, moreover, have been demonstrated, as I have pointed out, by scientific investigation of effects, as well as through the educational experience of the world. The modern classical ideal, this initiation into the spirit of Hellenism, has held captive even the greatest minds.

In conclusion, gentlemen, our secondary schools and our colleges are selective agencies. Those who can pass their high standards must constitute the living repositories of our modern learning, and must be the modern governing oligarchy, an oligarchy of the *intellectuels*, a culture which all with unmalleable minds must support, and to which they must bow. This limited number of secondary pupils must pass through a common intellectual training, acquire a single body of ideas and images, become a noble culture cult. Their initiation must be through this single group of studies, the classics, accompanied by a modicum of the mathematical sciences. These studies alone have a specific power of correction for the more disintegrating tendencies of the age.

(There is an observable impulse to applaud the *sound* of these noble utterances, but still no definite proposal to commit the group to any principle.)

Cassius J. Keyser (speaking with warmth). I have been engaged for years in the study and classification of specimens of human thought, and have no quarrel with Mr. More on the human worth of rigorous thinking.* This rigorous or pure thinking is a relatively rare phenomenon. The ideas of the vast majority of so-called educated men and women are too nebulous and vague, too little refined and defined to be available for concatenative thinking and rigorous discourse. Most of the world's thinking done on a given day on the streets or farms, or in factories or stores, or in offices of doctors or lawyers, or in school or college classrooms, or—pardon me, gentlemen—in our halls of legislation comes far short of the demands and standards of rigorous thinking.

A Member of the Legislative Committee. I wish to suggest to the professor that this is possibly why we cannot understand the drift of his remarks now.

Professor Keyser. The drift of my remarks is that the goal of all thinking—of all education—is mathematical, not linguistic. Through mathematics alone the *intellect attains harmony.* It is the means of giving wing to the subtler imagination. It is the basis for criticism, for speculation, for esthetic judgment, for ethical evaluation, and even for religious ecstasy in contemplating ideas under the form of eternity.

In short, gentlemen, there is no co-ordination of educational disciplines. All disciplines are subordinated to the mathematical. I agree with the one-pillar base in the construction of a curriculum, but I do not agree with Dr. Sturm or Mr. More as to what this base shall be, nor do I agree with Dr. Kerschensteiner that almost any field of knowledge will serve as the curriculum core. Mathematics is our only hope, gentlemen.

Mr. Wm. E. Ritter. Gentlemen of the conference: I have devoted a good deal of time to the inspiring task of formulating 10 biological discoveries and generalizations which have, I believe, very great importance to civilized men, but which, through the inadequate position in the curriculum of biological sciences, are by no means widely known.* I shall not detail

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*C. J. Keyser: *The Human Worth of Rigorous Thinking.* Science, Dec. 5, 1913, pp. 789-800.

*W. E. Ritter: *University of California Publications,* Vol. IX, No. 4, pp. 137-248, March 9, 1912.

these 10 biological laws here, but stake my scientific reputation upon the assertion that these laws are of very great moment to the higher intellectual and spiritual life of the people generally; that the high school boy or girl is capable of understanding the most essential things in these discoveries, and that most of them have bearing upon the universal problems of personal experience. I agree with Dr. Kerschensteiner and dissent from the views of Messrs. More, Keyser and Sturm, to the extent at least of asserting that biological studies can well be the pillar of a curriculum.

Chairman. My committee are somewhat hazy, gentlemen, on these technical matters of educational values. It appears that each branch of learning has its champion. I feel constrained at this point to call upon our scholar statesman, President Woodrow Wilson.

Mr. Wilson. We have in this country, if I may apply my thoughts on college education* to the high school, a miscellany of courses excellent in themselves, but arranged with no organic connections, with no fixed sequence, with little regard to any particular congruity between the several parts.

I do not find myself in sympathy with the one-pillar theory, gentlemen. For the sake of making a clear issue, therefore, I shall advocate a three or four pillar curriculum and sketch what I wish it to accomplish.

Our country needs men whose minds have had a vision of the field of knowledge, whose intellectual sympathy is genuine and catholic, and whose power of comprehension is well developed. This citizen must be able to receive, to see, to discriminate, to sympathize and to comprehend. He must state things with precision and reason with exactness and fearlessness, moving honestly and directly from premises to conclusion. He must be able to state a fact without stating an opinion. The three *ideal elements of our curriculum* must be (1) a discipline of principle, not the old barren discipline of process; (2) an enlightenment, not of mere information, but of acquaintance with the thoughts and deeds and moving impulses of the modern world, and (3) a manly freedom of one

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*W. Wilson: *The Arts Course as Distinct from the Professional and Semi-Professional Courses.* Proc. of Asso. of Am. Universities. Eleventh Annl. Conf., pp. 73-88, Jan., 1910.

whose interests accord with the general interests of society. The pillars of such a curriculum should be science, literature and the field of history and politics. (For the college I should add philosophy.) Through science he, the student, would get prepossessions of scientific inquiry, the fixed scientific habit of mind, which will enable one to walk about the world less a stranger to the processes, results and means of production in the realm of nature. As Huxley admonishes, his mind must be stored with a knowledge of the great and fundamental truths of Nature and of the laws of her operations.

In literature he could get intimations of the overpowering delights of enlargements and thrill, and be stirred by human adventure, move within the spirits of other men, and sweep the horizon for all the airs that are astir. The necessity of *history* and *politics* in providing general orientation for modern students is too obvious to elaborate. This three-pillared arrangement, gentlemen, represents my practical solution of the question before us. I am unconvinced of the feasibility of Dr. Kerschensteiner's curriculum with a vocational pillar, although I appear to be more modern than some of the other speakers in other respects. I have even appointed a Federal commission to look into this matter of vocational education of secondary grade.

Chairman. For the sake of making our issue clear, may we hear again from Dr. Kerschensteiner?

Dr. Kerchensteiner. I respond heartily to the ideals of President Wilson. They are the genuine ideals of college men of Oxford. They do not, however, apply, I believe, to the secondary school system as a whole which America is now developing. It should be clear that America must do, through some enlargement and ramification of function and multiplication of curriculums of her secondary school system, what European systems of France and Germany partly seek to do through extension of their elementary school system. You have an absolutely unique social and educational problem. Your secondary schools are also people's schools. Ours are not. The typical American city has varied interests and activities, a heterogenous population, families of wealth, families of small means, families cultivated, families uncultivated, families with conflicting economic interests, some with, some without influence, representatives from all of which are engaged in professional, industrial, commercial, artistic and domestic occupations. Your secondary system of education must either select one of these classes and leave the rest to other educational agencies, as ours frankly does, or it must meet all these varied educational requirements. If the latter is really your basis for organization, support and development, then you are, in my opinion, committed to the multi-curriculum basis. This circumscribed specialization of the materials and skill exercises for instruction and training is your first fundamental requirement. Pursuing my first principle of a one-pillar basis for all sorts of secondary education, I answer your specific question as well as the definite issue raised by Mr. Wilson by saying: I can well believe that a school, either of modern languages, or of natural sciences, or a technical school, would be of quite equal value with one of the older classical schools; but what I cannot admit is the value of a classical, modern-language, natural-science, mathematical, manual-training, fine-arts institution—that mongrel production—pardon my limitations in the softening of meanings in your language—of certain dilettanti with a passion for organizing. With such a hopeless conglomeration of subjects, all of equal value, our future secondary schools should have nothing to do.

Director of Prussian Gymnasium. Gentlemen, your illustrious statesman President is voicing the historic and present ideals of our Gymnasium. We seek just this, a broad humanistic training, making one intelligent and independent in the world of the arts and sciences. To my great surprise the whole discussion so far, with the exception of that of my countryman, Dr. Kerschensteiner, seems to assume the European, not what I had supposed was an American conception of secondary education.

(No dissent.)

Headmaster of a French Lycee. May I inquire if the one and one-fourth million American high school pupils now enrolled and the three-fourth million of high school age out of school and now idle or in blind alley occupations are all destined to receive this high training for intellectual leadership in professional careers of which we have heard such glowing accounts?

(No one seems inclined to answer the inquiry.)

Headmaster of an English Public School. According to our English Board of Education,* secondary schools have a twofold function—the training of those who aspire to occupations requiring a highly trained intelligence and those who plan to considerably extend into later years their educational preparation for life. There must be, however, a "Common Course" for both groups. In extreme cases the Government will allow a *vocational bias* to the curriculum—never a *vocational base or pillar.* Our national cardinal pillars are the seven usual academic studies, with large weight placed upon the *foreign languages and mathematics.*

I suppose I may speak for my German and French colleagues as well as for England with respect to one important point not yet mentioned. Our secondary schools serve as excellent agencies for *segregating the classes from the masses—a most convenient and appreciated feature.*

Chairman. These characterizations of foreign types of high schools are interesting, and Mr. Wilson's educational statesmanship inspires us all, I am sure. It will be well to have some comment at this point from our American High School Principal, despite his continued look of bewilderment.

Bewildered American High School Principal. Gentlemen, I have no such clear ideas of the purpose of the high school as have my visiting colleagues from Europe or the University specialists here present. Whenever we American high school principals hear of some new curriculum we at once regroup our high school subjects and thus provide, on paper, the curriculum desired. Most of these curriculums, however, are merely the result of a reshuffling of courses. They are merely paper curriculums. As a matter of fact, we have in America no "pillar theory" of curriculum construction. I recently read carefully the published curriculums of 40 high schools of American cities with about 20,000 population. These 40 schools offered 180 curriculums, averaging more than four curriculums each. I know that no one of them furnishes four thorough and distinguishable trainings for as many intelligibly grouped divisions of the students. I myself print eight cur-

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Curricula of Secondary Schools. Circular 826. Board of Education, London, 1913.

riculums for our pupils, but most of them represent varieties of the college preparatory. Those that do not are vocational mainly in name. From the points of view of the functions of secondary education the principles of curriculum construction, the bases for assigning students to curriculums, systems of educational and vocational guidance and the securing of teachers of vocational education, I am forced to admit to this body that I am entirely at sea. I feel that the American high school is somehow on trial, and that radical readjustments are impending. I have found this conference absorbingly interesting. I hope, however, engrossing as these speculative questions are, that something more definite may issue from it before we adjourn. We principals have to do something each day. We wish safe guidance.

Chairman. Before going on to this practical consideration of the next step in the development of secondary education, I am sure all of us should like a unifying word from Professor John Dewey, America's best-known philosopher of education.

Mr. Dewey. All the discussions thus far have been as grist to my philosophical mill. Every statement has some measure of truth. I believe with Mr. More and Mr. Wilson in giving a prominent place in the curriculum to those subjects directly touching upon human life itself, its art, its literature and its politics—that knowledge which touches our offices as human beings, which lays hold of our emotions and imagination and unifies character. These things stir men to action, and they are good. Although these in practice are the last things the average student gets from the classics, the ideal remains.

Nevertheless, at least an equal place in the curriculum must be given to the sciences.* This scientific attitude of mind must be fixed during the early years of life. The future of our civilization depends upon the widening spread and deepening hold of the scientific habit of mind. High schools must discover how to mature and make effective this mental attitude. Civilization must be ruled, not as heretofore, by things and words, but by thought. I would go so far as to say that only the gradual replacing of a literary by a scientific education

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*John Dewey: *Science as Subject-Matter and as Method.* Science, Jan. 28, 1910, pp. 121-127.

can assure to man the progressive amelioration of his lot. Our boys and girls should have some idea of kinds of evidence, of proofs, and a lively interest in the ways knowledge is improved as well as a marked distaste for unscientific conclusions. Science has done none of these things. It must. It has formed no social or moral ideas, but if we are ever to live and be governed by intelligence, not words, science must have something to say about what we do.

You see, gentlemen, the curriculum pillar I should erect. Moreover, this emphasis upon science as method, as habit of mind rather as subject-matter, in no way precludes any of the curriculums Dr. Kerschensteiner advocates. I shall even go further than Dr. Kerschensteiner. My conception of all secondary curriculums—and I admit a variety, from the college preparatory to the trade curriculums—must all be shot through and through with vocational connections. The realization that organized knowledge arose in connection with industry and human needs must permeate the whole school. All instruction must, of course, rise to the plane of general ideas, must be personalized and interpretive, never merely narrative, negative, destructive. The social and ethical, the genuinely vocational, as well as the purely physical or mental, come within our scope here.

These are my general principles. I shall have more to say upon the practical decisions when our body here moves on to a definite issue.

College Professor of Education. In order to be clear as to how Dr. Kerschensteiner's principle of definite goals for each secondary curriculum is to work in everyday practice, I wish to inquire if in his specialized curriculums he would have, say, one-quarter or one-third of the total time allotment of a student devoted to this major or pillar subject, and, say, one-half of the remaining time to cognate or allied subjects and the remaining time to the still more remotely related and indirectly contributory fields?

Dr. Kerschensteiner. In so-called academic work the gentleman describes the proposed school application very well, but for the technical curriculums I should suppose the so-called "project" work would make the procedure more complicated.

Chairman. Curriculum making has been called the "indoor sport'' of schoolmen. I begin to see its deeper aspects. We are glad to have these deeper issues raised. We shall hear from the State Superintendent.

State Superintendent. We have two sharply opposing views of the Ideal American High School. One of these is that the high school must be a miniature university in form of organization, with its agricultural students, its students of the commercial arts, students of the mechanic arts, students of the domestic arts and its college preparatory students. This means that the varied high school program must have curriculum offerings for these important and distinguishable groups—all within the public school system. It is the counter suggestion offered as a substitute for and better than the separate and undemocratic and costly plan for extension of secondary education provided by the well-known Cooley bill, which if passed, will tend to impose upon the present high school only academic responsibilities and thus weaken it in the popular mind, and deprive it of the rejuvenating effects of the parallel and competing vocational curriculums. The State Commission bill, favored by all the school people, as I interpret it, carries rather the implication of the desirability and practicability of several high school curriculums, preserving the good features of the Cooley provision and omitting the ''dual system'' feature. This ''curriculum-differentiation'' feature of the high school instructional program is the common feature upon which harmony is sought. It seeks, moreover, what both approve—and it reflects the real cause of the whole issue in every State in the Union—this need of vocational education.

The other view, the traditional view of the high school, is that identical items of knowledge, identical curriculums, a single curriculum, in fact, is the ideal toward which designers of high school curriculums should strive. This is presented as the only safeguard to social sympathy, national loyalty and other common virtues essential to a democratic civilization. To those who have looked long for curriculum designs in the high school program, to say nothing of the elementary, the panicky fears of curriculum differentiations are groundless. The arraignment of the movement toward curriculum variations seems like raising up a bogey or straw man and hitting him very hard. Those senior and even junior high school principals, with the exception of those in the larger cities, with whom I have talked have rarely found possible yet even a partial differentiation. Besides, I have found no one who, even in the remote future, hopes to differentiate trainings so completely that a liberal amount of common instruction will not be required in all the curriculums. The German Higher Schools, under a *dual* or even triple system of local administration are undemocratic and un-American, not for the lack of common elements of instruction (for they have these everywhere), nor from the fact that their limited number of differentiated curriculums are well and carefully designed for special governmental purposes (for they are admirable in this respect), but because they do not provide for some classes in their system at all. The principle of ''special privilege'' characterizes all German secondary schools. The more thoroughgoing curriculum differentiation on a purely democratic basis of social requirement and individual preference and suitability would seem rather to provide, within our thus extended secondary system of public education, just that daily contact, social intermingling, mutual acquaintance and enlarged appreciation of diverse educational and vocational aims and ideals represented in our high school student body. This student body, too, will be much larger and must be vocationally more representative than it is now. Fundamentals for our educational and social democracy must be provided, but not by the single rigid curriculum, even were this curriculum to combine all the good features of all the distinguished specialists who have spoken.

Advocate of the Cooley Bill. I agree with all that has been said with respect to the great need of all sorts of vocational education for boys and girls of high school age, about two-thirds of whom are in school and one-third of whom are even now in blind alley jobs or in vicious idleness. I agree with the one-pillar theory of curriculum making. I agree that we must furnish some other than the traditional kinds of high school education for these adolescent youths of both sexes. Every speaker has admitted that all systems of secondary education have, on a scholastic basis, become selective institutions, and have despised and ruthlessly thinned out of their ranks those, to use Mr. More's phrase, "with unmalleable minds." Secondary educators all over the world have always been blinded by their devotion to the intellectually superior minority among their pupils. They fail in entrance standards and otherwise to allow for the multitude who cannot satisfy the same scholastic requirements by completing the elementary school system, and they fail to work definitely with and for those—at least half their total enrollment—who can only make beginnings in high school work. Our secondary educators are, more than half of them, young women. Out of each hundred of the men even, every 10 have had only four years beyond the elementary school, 45 only from four to 8 years of some sort of training, 30 eight years, and 15 have had nine or more years, still academic, for the most part. Of the 25,000 women, whose training is more restrictedly academic and even linguistic perhaps, the amount of such preparation is practically the same. In some of our States nearly one-half of the whole high school teaching force shift places after one year. A small proportion are professionally trained in the administration, pedagogical and social work of the high school.

Gentlemen, the moving spirit of American public schools, like that of the European systems, is too firmly established to make room for what you all admit is needed—specialized secondary curriculums for the needed skilled artisans, for the mass of farmers, for the homekeepers and home servants, for the clerks and independent small scale business men, for the young aspirant for rural school teaching, for three-quarters of the high school population and for the other three-quarter million who should be in the high schools and are not. Your present-day, typical high school and college educator cannot deal sympathetically with the aims of vocational education.* His predilections, in disregard of the so evident present necessity of temporizing adjusted curriculums, is for the purely intellectual approach, even to problems of skill as well as to those of understanding. Furthermore, I doubt his and her ability in this field. For this reason I advocate the Cooley bill. We have too much at stake to run the risk of accepting the paper curriculums such as the high school principal present admits are now the rule, where indeed even a pretense at vocational education is provided. We need a new kind of Federal Board of Vocational Education, a new and separate State Board, distinct local boards, distinct school districts, distinct school administrators, a wholly new kind of teacher, new types of teaching, new sorts of apparatus and separate State and local school funds. This movement, with our many and increasing national associations, is the twentieth century religion—a social educational philosophy, a new solution of social problems, an indication of a profound educational revolution. Seven States have passed vocational education laws, and as many more are working for one now. In some respects most of them have temporized with tradition. With the exception of Wisconsin, their steps, while in the right direction, have been timid and hesitating. They offer the shadow for the substance. They are exploiting a cheap vocational education; they are deceiving themselves with formulae of forms of vocational education too simple and too easily comprehended. They are turning out products upon which the real vocational world looks with pity and contempt.

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*See D. Snedden. Bulletin 18. Proc. of Nat. Soc. f. P. Indl. Edn., Oct., 1913, pp. 55-59.

Gentlemen, let us have all that the learned speakers have advocated, but let us also make sure of the present vocational need also. The Cooley bill provides educationally for what we all want. No one opposes any of its features, except certain technical matters of the machinery of administration.

Chairman. Does any one propose a definite expression of this body on any of the issues raised?

State Superintendent. I wish to add a few comments before we test the sentiment of the conference. In my opinion, despite the fact that we have approved no definite step as yet, we have made great progress. We have sensed the power and dignity and integrity of our representatives of pure scholarship; we have noted the right ring in the voices of those who feel the urgency of vocational education; we appreciate the legitimate and natural points of view of our foreign visitors, and we accept as genuine the fervid arraignment of our present system of public high school education by the advocate of a new and parallel system. So long as I have a voice in the legislation for our own State I shall champion all the educational ideals here presented.

I would supplement what the last speaker has said—and admit even more of the shortcomings of our present system. Massachusetts enrolls about 60,000 in her high schools. She has about 45,000 of the same age in unproductive employment. Vermont enrolls only 5722 of her 25,000 15-18 year olds. Likewise, an estimate of 87 school superintendents of Illinois leads me to say that this State has 34.5 per cent. of its adolescents out of school and idle or in undesirable employment. Further than this, 32 per cent. of these school administrators do not think it possible for the high school to offer a vocational curriculum.

This curriculum making and thinking is a new thing, even if it prevails. It marks an epoch in high school development. It cannot be accomplished in a day under any system. It is, under present conditions, the rare school that can do any real experimentation in this field. We do, however, have numerous experiments which are indicative of a movement toward differentiated curriculums. There is a notable effort of scientists in the different fields to co-operate in relating sequentially the various high school science courses, in providing a more suitable introduction and in adjusting subject-matter, methods and *new* kinds of courses to the different curriculums in which these courses are functioning. Likewise, all the language and literature work of the curriculums shows the same sort of co-operative designing and adaptation purpose. It is true of the historical, civic and economic instruction. The attempts of manual training departments to expand and ramify, to extend their fields, to correlate with freehand and mechanical drawing, to become adjusted to trade or agricultural demands are likewise indicative of underlying curriculum designing. Absolutely no field of education has developed so rapidly as the secondary field. I am of the opinion that we may safely legislate with reference to all these desirable curriculum changes and additions within the present system; that it would be too expensive and impractical otherwise; that the present high school needs the exhilarating effect of such new spirit and novel pedagogy; that the curriculums with the new pillars need the steadying standards of the old ones, and that they also need some of these academic subjects with which to round out any specific vocational training which may form the curriculum base.

In conclusion, Mr. Chairman and gentlemen of the conference, I move that it is the present sense of this body that—

Chairman. Pardon me. We are to hear again from Mr. Dewey.

Mr. Dewey. I believe we may still follow where the argument leads. The ends in view of the last two speakers are the same. We must do nothing to make our present organized public educational system indifferent to this new and vital movement, still less antagonistic to it.* We must not deprive industrial education of such valuable co-operation, nor literary education of the pedagogical and moral influences of this vocational spirit in education. This infusion of new and fresh purposes merely means that the industries and the business houses and the workingmen and the homekeepers are joining in with the college in making known to high schools desirable preparations for high school students whose career intentions point in their several directions. Assuming this interest and concern of the community as a whole, we want for our public high school, through its differentiated and well-designed curriculums, a complete rounded-out scheme representing all factors in a unified school system. The Cooley bill represents a desperate measure, a measure of last resort. One large fallacy is that it assumes that many children must leave school at 14, and creates an agency which is thus largely interested in doctoring and patching up these children *after* they get into industry. The tendency will be to be less interested in them before they leave school. Though we must do what we can for those whom the school has lost, still our fundamental necessity is to change our educational system so that these children will not, and cannot afford and will not wish to leave school generally at 14. An American city of 40,000* should have a large centrally-located high school occupying a whole block, with auditorium, several good laboratories, a gymnasium, a library and possibly the beginnings of art collections. This should easily be the most important institution of the city. Moreover, it should exist for the education of the whole people.

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*J. Dewey: *Should Michigan Have Vocational Education Under "Unit" or "Dual" Control?* Proc. of Soc. f. P. Indl. Edn., pp. 27-34, Oct., 1913.

*See Report of a Survey of the School System of Butte, Montana, June, 1914, p. 68.

The regular day attendance should be 1500, the evening attendance of youths and adults 2000, and the social center activities numerous and varied. Such a high school should profoundly influence the home life, the spiritual life and the commercial and industrial life, as well as the esthetic development of the entire city. We cannot split nor duplicate such elaborate physical plants, but more—we cannot establish two sources for educational uplift and inspiration. Our high schools have a history; they are a part of the educational personality of all our cities and towns; they should be allowed to grow—indeed should be forced to expand—but never to *divide.*

Headmaster of French Lycée. The last speech reminds me that M. Buisson of the Chamber of Deputies has introduced a bill of similar import in France, advocating a unified national school with liberally bifurcated curriculums, and a three-cycle curriculum arrangement, allowing for a broad vocational education.

Director of German Gymnasium. There is a similar principle in the strong movement in Germany for the "Einheit School."

Headmaster of the English Public School. The Liberal Party of England likewise is proclaiming the ideals of national education in many particulars much like the movements named.

College Professor of Education. Secondary education in all civilized countries of the world is the object of national inquiries and reforms. With a loyal and comprehending trust we are turning to the public high school as the guardian of our modern culture. At present this high school is puzzled by conflicting necessities; it is hampered by contradictory and sometimes harping criticism; it is bewildered by its unescapable responsibilities.* It knows that it must expand to meet the composite needs of a whole people. It wishes to apprehend the nature of these needs. Even with lavishness in experimental waste it must meet with a practical intelligence the necessity of the laboring world for efficient vocational preparation. It must also do even more than it is now doing to keep

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*Annie K. Tuell: *Our "Classical Recollections."* Atlantic Monthly, Dec., 1914, pp. 778-786.

clear the road to the treasures of deeper learning for those who, by fortune or by energy of divine intellectual discontent, can prolong their search well beyond the high school years. The problem of secondary education is a baffling and a double one. Let our high schools honor first their great popular and urgent vocational mission, but let them at the same time indulge a little of that wholesome deference and that heartening devotion to learning without which any and all of us are in a sorry plight indeed.

I move you, sir, that it is the sense of this body that—

The American high school is inclined toward expansion from within to the extent of strengthening still further the language, the history and the science curriculum pillars, and of adding bona fide vocational curriculums and fine arts curriculums;

That the professional status of its teaching ranks is steadily rising;

That its ruling administrative policy is favorable toward all legitimate extensions of school activities;

And that, therefore, all legislation with reference to the education of youth above 14 years of age should build upon the existing national system of public high schools.

Chairman. Those in favor will please stand.

The motion prevails.

Chairman. We are indebted to you, gentlemen, and we assure you we shall deal in executive session more intelligently with the issues involved in the bills which are soon to be passed upon by us and recommended by us to the Legislature.

College Surveillance and Student Responsibility

Calvin O. Davis

Junior Professor of Education, University of Michigan

IN how far is it wise or even moral to allow students in college to assume the entire responsibility for their own conduct and efforts? Should they be subjected to supervision and direction in much the same manner in which they were treated in the secondary schools? If so, should any distinction be made among the various classes of students, granting, for example, greater individual freedom to sophomores than to freshmen, and to upper classmen than to lower classmen?

No doubt in most of our American colleges the consensus of opinion would oppose the idea of relaxing entirely all centralized administrative control and supervision of students, either in respect to their academic work or in respect to their moral conduct. Nevertheless, the degree to which this supervision and control is assumed by constituted institutional agencies and the manner in which it is exercised will differ among the several colleges in accordance with the accepted principles each holds respecting the laws of growth, individual freedom and paternalistic government.

In order to determine, if possible, what the common practices are with reference to the centralized administrative supervision and control of students' classwork in the Arts Department of typical American colleges and universities, the writer sent letters of inquiry to the registrars of 30 institutions of higher learning. He assumed that each institution conducted examinations at the end of each semester, and that students were, at such times, given formal notices of the grades or marks obtained by them in the respective courses. What he did seek to learn positively was whether or not efforts are quite generally made by administrative authorities to discover the deficiencies of students somewhat early in their careers and to inform them (and also their parents) just what the character of their university work has been up to the period of the report.

The thought which gave rise to the inquiry was that students are too often kept in ignorance of the dangers into which they are slipping and then, when too late to permit recovery of lost ground, are informed that their cases are hopeless. In other words, the idea became fixed that administrative officers are frequently as diligent in the proper administration of their offices as students are in the adequate mastery of their assigned work, and that if instructors were forced to formulate a judgment respecting the class standing of their students in mid-semester and the students (and possibly also parents) were to be made acquainted with this judgment, fewer delinquents and failures would occur at the end of the semester. The writer is glad to acknowledge that his haunting fears have been considerably allayed, and that the point to his former criticisms has been considerably dulled by the data secured from his inquiry. Nevertheless, the results of the investigation may prove interesting if set forth, and may stir some to modify the usual procedure of administration respecting the publicity of students' class grades.

As previously stated, the investigation was undertaken by means of letters of inquiry sent to the registrars of 30 colleges and universities. The specific questions asked were the following:

1. Are mid-semester reports concerning students' academic work required of the various instructors?
2. If so, for what classes of students?
3. Are students themselves notified, in mid-semester, of their various class rankings?
4. Are parents informed, in mid-semester, how their children are meeting the academic standards of the college?
5. Are parents thus informed at the end of the semester?
6. Are principals of the secondary schools from which the college students have been graduated informed (either at the end of the semester or at the end of the year) as to what has been the college ranking of their former charges?
7. Are mid-semester reports desirable?

Institution.	*Are mid-semester reports required from instructors?*	*For what students?*	*Are students informed of mid-semester grades?*	*Are parents informed in mid-semester?*	*Are parents informed at end of semester?*	*Are principals informed at end of semester or year?*	*Are mid-semester gradings desirable?*
Bryn Mawr.	No, but mid-semester quizzes are required and results posted.						
Chicago Univ.	Yes, every four weeks.	All below "C."	Yes, if below "C."	In exceptional cases.	Yes.		
Columbia	Yes.	All.	Yes, if unsatisfactory.	Yes, if requested.	Yes, for all.		Of immense value.
Harvard.	Yes.	All below "C."	Yes, if unsatisfactory.	If cases are serious.	Yes, for all.	Yes, if requested.	Yes.
Leland Stanford.	Yes.	Delinquents only.	Yes.	If cases are serious.	Yes.	Yes, for all freshmen.	Weaken responsibility.
Mt. Holyoke.	Yes.	Freshmen.	If deficient.	No.	No.	Yes, for all freshmen.	Yes.
Northwestern.	Yes.	Freshmen.	Yes.	No.	Yes.	Yes.	Yes.
Ohio State Univ.	Yes.	Delinquents only.	If failing.	Only delinquents.	Only delinquents.	Only on request.	Doubtful.
Oxford College for Women.	Yes.	All.	Yes.	Yes.	Yes.	Yes, if trouble is serious.	Yes.
Smith College.	Yes.	Delinquents.	No.	No.	Yes, all delinquents.	Yes, of all delinquents.	Yes.
Univ. of Cal.	Yes, three each half-year.	All.	If failing.	No.	No.	Yes, of all students.	Yes.
Univ. of Col.	Yes, every six weeks.	All.	Yes, all freshmen and any delinquents.	If work is unsatisfactory.	At end of 12th week.	Yes, of all students.	Yes.
Univ. of Ill.	Yes, three in 1st semester, two in 2d semester.	All freshmen and delinquents.	Upon request.	If work is unsatisfactory.	If delinquent.	Yes, on all.	
Univ. of Ind.	Yes.	All.	If unsatisfactory.	If work is unsatisfactory.	If delinquent.	Yes, if unsatisfactory.	Yes.
Univ. of Kans.	Yes, weekly.	All.	Upon request.	No.	No.	No.	Yes.
Univ. of Iowa.	Not regularly.	Delinquents.	If unsatisfactory.	If delinquent.	If delinquent.	If delinquent.	Yes.
Univ. of Mich.	Yes.	Freshmen.	If unsatisfactory.	No.	If delinquent.	Yes.	Yes.
Univ. of Mo.	Only upon request of the Dean.	Delinquents only.	If unsatisfactory.	If delinquent.	Yes, of freshmen and sophomores.	Of freshmen and sophomores.	Yes.
Univ. of Minn.	Yes, monthly.	Delinquents.	If unsatisfactory.	If serious.	Yes.	Yes.	Yes.
Univ. of Neb.	Yes.	Delinquents.	Upon request.	If delinquent.	If delinquent.	On request.	Yes.
Univ. of Pa.	Yes.	Delinquents.					Yes.
Univ. of Wis.	Yes.	All freshmen.	If delinquent.	If delinquent.	Yes, of all students.	Yes, of all freshmen.	Yes.
Wellesley.	Yes.	All freshmen.	All new students.	If delinquent.	If delinquent.	Yes, delinquencies.	Yes.
Yale.	Yes.	Delinquents in senior and junior classes; all freshmen and sophomores.	If unsatisfactory.	If desired.	If delinquent.	Yes, delinquencies.	Yes.

Replies to this series of inquiries were received from the registrars (or other official) of the Arts Departments of 24 colleges and universities. The following table gives these replies in compiled form:

An analysis of the above data reveals the following interesting facts:

1. Twenty-three of the 24 institutions require mid-semester reports of some kind to be made by instructors to the administrative office, four institutions requiring more than one such mid-term report. One institution requires mid-semester quizzes, and expects the instructors themselves to report the results of such quizzes to the students.

2. Six institutions require mid-semester reports concerning all students; five require complete reports concerning freshmen only; 12 require reports concerning all students below good passing grades, and one requires reports concerning all freshmen and sophomores and of such upper classmen as are below "C" grade.

3. One institution notifies all students, in mid-semester, what their rankings are; three institutions notify all freshmen or new students; 11 institutions notify all students who are delinquent or below "C" grade; three institutions notify only freshmen students who are delinquent or below "C" grade; three institutions give out grades in mid-semester only on the personal request of students who have been reported as delinquent or below "C" grade; two institutions do not give out official mid-term grades, and one institution did not reply to the question asked.

4. One institution notifies parents in mid-semester what the work of their children has been; 13 notify parents if the student is seriously delinquent; two institutions report that they notify parents "if requested" (though doubtless all do this); six make no mid-semester reports to parents, and two institutions did not reply to this question.

5. Five institutions make reports to parents at the end of each semester (and for all students); 14 make reports for delinquents only; three make no reports at all, and two did not reply to the question.

6. Three institutions make reports to principals of secondary schools and do so for all students; five make reports for all

freshmen; one makes reports on all lower classmen; seven make reports on all delinquents; three make reports only on specific requests from principals; one makes no reports, and three institutions did not reply to the question.

7. Nineteen institutions regard the idea of making mid-semester reports as highly desirable; one regards the plan as of doubtful value; one considers the plan as detrimental, since it weakens student responsibility, and four institutions did not reply to the question.

DISCUSSIONS

CITY CHARTERS AND THE SCHOOLS

J. H. Van Sickle

Superintendent, Springfield, Mass.

CHARTER changes, often radical and sweeping, have been of such frequent occurrence that now they scarcely cause newspaper comment outside the local area affected. The commission plan, though of recent origin, has been widely adopted, and the city manager modification of this plan has made rapid strides within the year. Will the widespread changes that are taking place in city government in general bring about equally radical changes in the form of school management which has become standard in the United States?

It would appear that the people are more conservative with regard to their schools than they are with regard to other civic interests, for thus far, with few exceptions, changes in city charters have not included the schools. Generally, even under the commission form of city government, the schools have been regarded as an interest so vitally important as to justify a commission charged solely with their management, this commission being the School Board. Nearly all cities of Kansas have the commission form of government, but the schools have not been included in the new plan. The Kansas State law governing the organization of school boards of cities provides for a six-member, non-partisan board of education, nominated and elected at large. The Kansas Municipal League, composed of the mayors of all the cities in the State, has adopted resolutions favoring legislative action abolishing boards of education and providing for a commissioner of education. The question whether the government of the schools should be a part of the city government or whether they should be under the control of a separate board thus ceases to be academic and becomes one of serious moment.

The commission form of government went into effect in St. Paul, Minnesota, on June 1, 1914. The Commissioner of Education, who also has charge of the Public Library and of the Municipal Audi-

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*Advance paragraphs from report prepared for "Bureau of Education on Progress in City School Systems."

torium, is one of six commissioners elected at large, but assigned to a particular department by the Mayor. The Commissioner appoints for a term of two years a superintendent of schools, whose salary is fixed by the charter, a public librarian for two years and a superintendent of the auditorium for two years. In this way the public schools, the public library and the municipal auditorium are closely affiliated for harmonious educational work. The Commissioner of Education appoints the whole teaching staff on recommendation by the superintendent of schools. The Commissioner has no power of initiative in appointing teachers, but he may remove for cause on his own motion, or on complaint of the superintendent. The Commissioner also appoints a superintendent of school buildings, who has charge of all school buildings and school grounds.

The charter further provides for an Advisory School Board of twelve members to be appointed by the Commissioner, one from each ward of the city, and for an Advisory Board of not less than eight and not more than twelve teachers to be elected by the teachers by secret ballot.

The management of schools by a single commissioner instead of a school board is a radical departure in school administration. It is a perfectly logical feature of a commission form of city government, but there is as yet little or no experience of its effect upon a school system by which to judge its permanent value. In the short time that the St. Paul plan has been in operation it is noted that "all professional business, such as the appointment of teachers, the installation of machinery for manual training, and the opening of new rooms or new classes has been transacted with great expedition, there being no delay such as is involved in wating for School Board action." It remains to be seen whether in other respects this plan has in it the elements that favor its survival. At the present time it must be regarded as an interesting experiment.

In Buffalo, New York, the commission charter recently adopted provides for a superintendent of education to be appointed by the Commission and a Board of Education, consisting of five members, also to be appointed by the Commission. It is difficult to see how harmony can result from an arrangement by which the School Board and superintendent hold their positions at the will of the same governing body. The School Board is without power to choose its own executive officer. The probability that friction and inefficiency will flourish under such a scheme is evidently realized by many citizens of Buffalo who are intelligently interested in education, for, according to the public press, they will endeavor to have the charter amended in such a way as to make it a safer instrument of government so far as the schools are concerned.

THE HARVARD-NEWTON COMPOSITION SCALE*

IN September, 1914, the English Composition Scale of Dr. M. B. Hillegas of Columbia University was published. It consisted of ten themes, ranging in merit from zero to approximately 94 per cent., which were selected from several thousand written by young people. It was called a scale for the measurement of "general merit" in English Composition. This scale has apparently been received with some skepticism by the rank and file of English teachers, who are inclined to agree with Dr. S. A. Courtis that it is not a "practical tool for classroom use."

The Department of Educational Research of Harvard University, in co-operation with the school authorities of Newton, Mass., has recently produced another English Composition Scale. The designers of this scale, while recognizing value in the Hillegas scale, contend that a satisfactory measurement of such a thing as general merit is impossible. Therefore they have adopted the conventional rhetorical subdivisions of discourse, and have devised separate scales—Description, Exposition, Argumentation and Narration. Each scale consists of six themes, valued at approximately 95, 85, 75, 65, 55 and 45 per cent., respectively. Comments follow each theme, justifying its position in the scale, and indicating its chief merits and defects. These comments are intended as a guide for teachers in applying the scale. The material from which the themes were chosen was produced entirely by eighth grade pupils.

The construction of the Harvard-Newton scale was based on the following principles: (1) a scale should not aim to measure too complex a product; (2) it should be made up of compositions having the same characteristics as those which the scale is intended to measure; (3) it should conform to the present practice of rating school work by percentage grades or letters; and (4) the scale samples should be analyzed as to merits and defects.

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*F. W. Ballou: Harvard-Newton Bulletin No. 2, 1914, Harvard University Press.

The division of subject-matter is evidently a distinct step in advance of the Hillegas scale. But it is questionable whether the division used by the Harvard-Newton authorities is ideal. There is noticeable in recent textbooks and periodicals a tendency to abandon the terms Description, Narration, etc., in favor of a more logical classification. Hence the terminology upon which this scale is based may in time become obsolete.

The chief weakness of the scale seems to be that it does not entirely make good its requirement that "a scale should be made up of compositions having the same characteristics as those which the scale is intended to measure." For example, in the Description Scale sample five, which is almost wholly expository, must be used in the grading of material suggestive in character.

However, aside from the defects it may have, the Harvard-Newton Scale, should prove of great value in developing more accurate standards of grading, and in contributing to later material of similar character. P. M. Watson.

Chrisman, Ill.

BOOK REVIEWS

J. E. Wallace Wallin. *The Mental Health of the School Child.* Yale University Press, New Haven. 1914. Pp. 463. $2.00 net.

The topic with which this volume deals is relatively a new one, but rapidly assuming a place of recognized importance in the organization of school systems. The movement for the establishment of school agencies for the care and protection of the physical life of the pupil has attained, in the guise of medical inspection, sufficient headway as to insure its further development without the nursing of experts. So much, however, cannot be said of the movement for systematic care and protection of the mental life of the pupil, despite the fact that the school does deal primarily with mental operations and mental products.

This volume from the hand of Dr. Wallin is, then, as timely as it is valuable. In it the educational administrator will find an excellent exposition of the present status of the psycho-educational clinic in its relation to school welfare; he will obtain a good idea of what is being done with mental tests in public schools, what advantages may be gained by the establishment of mental clinics, what limitations are to be expected in their scope and what dangers ought to be averted in their administration. The next decade must inevitably witness a rapid extension of the psycho-educational clinic in public school systems. Those who participate in this movement will do well to read this book. They will find much to stimulate and encourage them and some things to give them pause.

The contents of the volume are in the main a series of articles that the author has already published in various magazines. Most readers cherish with reason a certain antipathy to the plan of constructing a book by collecting scattered publications from periodical literature, but Dr. Wallin has, I think, sufficient excuse for his use of the plan in this instance. Nearly all of the articles in question have been greatly modified, both by condensation and extension, and the treatment has both unified them and brought them down to date. Furthermore, many of the original articles appeared in journals that are not ordinarily accessible to the clientele to which the book's appeal is directed.

Of the nineteen chapters, four deal mainly with the effect upon mentality of the treatment of physical defects, particularly of dental defects; four deal mainly with the problem of the psycho-educational clinic; four more deal mainly with the Binet-Simon tests. One chapter provides an extremely interesting summary, in tabular form, of the present status of public school provisions for mentally unusual children of all sorts; this chapter is particularly serviceable and valuable, as it supplements and particularizes the presentation of this topic given by Van Sickle, Witmer and Ayres several years ago. The longest and by far the most important chapter, however, is the second, entitled "The New Clinical Psychology and the Psycho-Clinicist," which is a much elaborated presentation of the material published by the author in the *Journal of Educational Psychology* in 1911.

Dr. Wallin writes in a vigorous style, and his material embodies the fruits of extensive experience in clinical work of the sort that he champions. It is not to be expected that all of his readers will endorse him *in toto*, nevertheless his pronouncements challenge attention and will assuredly contribute a distinct impetus to the very fundamental problems with which he deals. G. M. WHIPPLE.

University of Illinois.

LEWIS M. TERMAN. *The Hygiene of the School Child.* Houghton-Mifflin Company, Boston. 1914. Pp. xvii + 416. $1.65 net.

This volume forms one of the "Riverside Textbooks in Education," edited by Prof. E. P. Cubberley. It is intended for use as a textbook in normal schools, colleges and reading circles. It differs from the general run of textbooks on school hygiene in putting the stress almost exclusively upon the hygiene of the pupil rather than upon the hygiene of the schoolhouse and schoolroom itself, and it also presents a very favorable contrast to some of the texts in current use by its freshness and modernity. Most of the books now in use in the training of teachers exhibit an unfortunate degree of similarity and repetition, particularly to be noted in the repetition of assertions that represented current teaching a decade or a score of years ago. As a matter of fact, there is scarcely any branch of applied science in which so many new facts have been unearthed and so many old and seemingly established positions rendered dubious and uncertain as in school hygiene. This book has the merit of collating from the periodical literature a goodly number of the most valuable recent contributions and presenting them in systematic form.

The editor speaks of the time that should come when the physical welfare of the pupil will "be regarded as of as much importance as arithmetic and geography," and when "a knowledge of the elements of child hygiene will be regarded as of fundamental importance in the training of every teacher." This is a view that appeals most intensely to the reviewer and for which he has striven vigorously in the past. He greets this volume, then, with a sense of satisfaction, because it bids fair to further the scientific study of the hygiene of the school child by teachers in training in many institutions.

Following the introductory chapter are seven chapters that center upon the phenomena of growth (laws of growth, physiological age, disorders of growth, malnutrition, etc.) There are special chapters for the hygiene of the teeth, the eyes, the nose and throat, and the voice. Of the remaining chapters, one is devoted to tuberculosis, one to ventilation, one to sleep and three to preventive mental hygiene. This citation of the main topics under discussion will give a general idea of the scope of the work. The treatment, as has been indicated, is characterized by extensive reference to the recent periodical literature, especially to the European literature. There are a fair number of tables, graphs and cuts. Each chapter is supplied with references; there is a glossary of technical terms and a good index, while most chapters close with a compact and useful summary.

Any schoolman who has followed the development of school hygiene must have been impressed with the number of vagaries that have crept in for shelter under the wing of science. It would be difficult to cite another contemporaneous branch of science where so much dilettantism has prevailed, where arm-chair opinion has so readily passed muster for factual demonstration. It is to the credit of Mr. Terman that he has made an honest effort to select the wheat from the chaff. It may be felt, however, that he has been somewhat prone to speak dogmatically in his championing of some of the most recent and revolutionary ideas. I think that not all experts in school hygiene would be ready, for example, to declare, as Mr. Terman does in effect, that the best conditions for schoolroom work are obtained by copious drafts of air, sudden changes of temperature and a humidity above

30 per cent. That may be true in the wonderful climate of California, Mr. Terman's own State, but he might find it a treacherous doctrine to apply through a New England winter. Children at work in school are not engaged in physical activity like that of a man in a state of nature, nor is an open-air class entirely a joysome affair in temperatures below the freezing point. Moreover, a relative humidity above 30 per cent. will produce excessive condensation and precipitation of moisture on cold surfaces in the schoolroom, as the reviewer has demonstrated by instrumental tests. It would be safer, in our present knowledge, to write a more cautious chapter on the physiology of ventilation. In the pioneer 'forest-schools' of Germany the tendency away from a too extreme interpretation of the advantages of open-air work is already well developed.

On the whole, nevertheless, this book is one of the best contributions that has been made to the textbook literature of school hygiene.

University of Illinois. G. M. WHIPPLE.

C. O. DAVIS. *High School Courses of Study.* World Book Co., Yonkers. 1914. Pp. xi + 172. $1.50.

It is refreshing in these days, when the book market is being flooded with studies, texts and syllabi, to find a strictly professional book that is at once useful, instructive and inspiring. The "Efficiency Series," edited by Dr. Hanus, has already proven its worth to students of educational problems, but it is not too much to say that this book by Professor Davis maintains the high standard of the series, at least so far.

The inspiration of the book is found mainly in the first three chapters in which with care and with rare penetration is sought out and clearly stated what the twentieth century thought is about, both the general and specific functions of the high school programs of study and the ultimate goal toward which the high school strives. The high school pupils are classified into two types, those with an aim and those without an aim. An attempt is made to establish standards by which to evaluate the various subjects in the high school program of studies. These standards are designated "Categories of Educational Value," and in each category a subject may be rated "high," "moderate" or "low." Such a set of "norms" are not scientifically determined, and the author lays no claim to their being other than "the judicial opinion of educational specialists and thoughtful laymen."

With such a set of standards in mind the several subjects of study in the usual high school programs are analyzed and estimated.

These standards are supplemented by a comparative survey of the programs of study in ten city high schools of the United States, and from the joint study a rational basis is arrived at. This the author has used to judge and helpfully criticise the high schools of New York city. About fifty pages more are taken up with a searching study of these high schools, and the remaining fifty pages are devoted to criticisms of the system and recommendations for its improvement. This latter part of the book is wonderfully instructive and useful. The "dry-as-dust facts" draw one back again and again to the book, so interesting is the treatment.

When one has finished the book and puts it down a feeling of joy comes over one at the privilege of being a high school teacher. What a wonderful opportunity opens up before one in such a statement as—"its range of functions comprises the physical, political, social, esthetic and vocational interests of human beings," and in this: "In short, the high school today aims to function directly in concrete life—and this not merely at the end of a four-year course, but at every stage in the course." L. A. Williams.

University of North Carolina.

F. W. Ballou. *High School Organization.* World Book Co., Yonkers. Pp. xvi + 178. $1.50.

Slowly there is accumulating a body of literature dealing with strictly high school problems. More slowly still is this literature meeting a real need in the study of educational questions about high schools. This book by Professor Ballou furnishes the beginning of a fact basis on which to measure the efficiency of high school organigation.

To open the covers of this book and read is to open the office doors of the high school principals in New York city and learn the innermost secrets of that stupendous organization. The book studies the facts of the internal organization of these high schools, with an attempt to establish standards for judging the efficiency of a large city high school. If facts are not available the basis of opinion is used and acknowledgment made.

The original report of Professor Ballou to the New York City Board of Education was in the form of five separate monographs. By combining these monographs and adding a chapter of summary statements the present book was built up. These separate studies covered the following problems. 1. The Size of Sections (classes). 2. The Work of Chairmen of Departments. 3. The Work of Other Teachers. 4. Administrative Control of the High School Teachers as It Affects Internal Organization. 5. Estimating the Need of High School Teachers. Valuable contributions to each of these problems have been made by these studies, and at last some headway has been made in setting up scientifically determined standards by which to measure high school work.

Of course, the chief value of the book is for the teacher and the principal of large high schools, and yet many of the conclusions and recommendations are so universally true that the teacher in the small high school may well profit by the suggestions. To the devotee of system, routine and machinery the book is particularly interesting because of the very clear-cut description of the workings of the machinery used in the high school section of our metropolitan school system. To the student of education it is broadening and enlightening to be able to know and understand so exactly how New York handles its problem of educating its polyglot mass of children and pays no heed to class, creed or color. The volume is well worth a painstaking study with notebook and pencil in hand—a live teacher will find use for them during a perusal of the book.

L. A. Williams.

University of North Carolina.

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EDITORIALS

Elective vs. Appointive Educational Officials

IN almost every State in the Union the question of the elective versus the appointive system of selecting public servants is under discussion. Formerly, the attempt was made to elect an official for every possible function. Gradually, this has been abandoned in progressive communities, except as regards those representatives of the people, like legislators and such chief executives as presidents, governors and mayors, who are expected to reflect popular demands and to give voice to popular policies.

It is proper that we should have the popular election of lay boards in education. It is doubtful if the popular election of officials responsible for administration and directive duties can be defended any longer. But in many States we still elect by popular vote the chief educational executive. It is also common to find the chief county educational executive chosen by popular vote. It cannot be denied that this system of selection from time to time brings to the front men of rare ability, and also that their services are recognized and rewarded by a relatively long tenure.

Nevertheless, the time has come when, throughout the country, educators should go on record more definitely than has hitherto been the case as to the fundamental soundness of the system of popular election for educational executives. We must seriously examine not only the effects of this system as these are manifested in the work done in States and counties, but also as to the effects of the system on the development of a thoroughly professional point of view on the part of those qualified for educational leadership. Any system that does not bring to the front, in an administrative capacity, those who by nature and training are best suited for such work, and which does not retain such persons in service as long as their accumulated experience makes them available, is bound to be faulty. It should, of course, be recognized that, up to a certain level, a system of popular election may work fairly well, and yet utterly break down beyond. Few people now would argue that an engineer or a superintendent of a water supply system should be chosen by popular vote. It ought to be equally difficult to argue that an expert educational administrator should be chosen, any more than an architect or accountant.

In American cities it would seem that educational administration is now organized along substantially right lines. The lay board, representative of the public, is the final source of authority. This lay board appoints its chief executive, and holds itself ready to scrutinize his policies and to pass judgment upon the results of his work. Under the chief executive are found, in various stages of service down to the rank and file of teachers, other executives nominated by the superintendent, and communicating through him to the Board of Education. A system analogous to this must be developed if county and State supervision are to rise to the new level of responsibilities now confronting them. We must make a career for the county superintendent no less dignified and important, and enduring, than that of the city superintendent.

This is one of the large problems confronting educational administration in America. It must become definitely professional. It cannot become professional as long as the methods of selecting State and county executives are what they are at present. D. S.

The Superintendent of Schools as an Educational Expert

MUCH nonsense is uttered as to the desirable qualifications of the superintendent of schools. At the same time, it is not certain that superintendents, themselves, have a clear notion as to the fields in which they should be expected to have expert knowledge or skill.

It ought to be obvious at once that the superintendent cannot be a master craftsman in all of the departments of education over which he is expected to have administrative responsibility. It is foolish to assume that he can be a better kindergartner than his kindergarten teachers, a better drawing teacher than the drawing master found in his force, a better janitor than his average janitor, or a better grammar school principal than the men under him.

On the other hand, it is clear that the superintendent should know more than any person in his force as to the total demands that are being made upon the public schools, and what specific contributions to these demands any particular department can and should make. The superintendent ought to know more than any kindergartner as to the relative importance and the actual place, in a total scheme of education, of kindergarten work. He ought to be more of an expert than anyone else as to the field of education which the high school is expected to follow, and the extent to which, in actual practice, it is now occupying that field.

In other words, the superintendent must, comparatively speaking, be an expert in interpreting valid public demands, and equally an expert in judging whether any particular procedure is meeting these demands. Not merely in the supply of education offered, but also in the economy of money and effort with which it is offered, should he be expert above all other persons in his community. D. S.

The Vocational Trend in Education

THE three most prominent topics in school reports of the present year relate to definiteness in supervision, changes in grade organization and vocational training. Nearly every report which is available mentions vocational training either as already established or in the organization stage. The ordinary manual training courses seem no longer to satisfy conditions. They are giving place to courses called industrial, vocational or in the case of the earlier courses, prevocational. It might seem that the movement toward fitting boys and girls in school for practical efficiency in their life work was fast superseding harmonious development through liberal education if we did not remember that the older so-called liberal form of education is so strongly entrenched as to call for no advocacy at the present time.

The present concern seems to be for the large number of boys and girls who under the old regime found little of value in the curriculum because they could not or did not remain in school long enough to profit by it. It is not proposed to make artisans of those who by nature and circumstance tend to go in another direction. The literary curriculum is vocational for them, and it is still open to them. Education for those destined for the professions has always been vocational from the beginnings all along to its culmination in the professional school, while the great majority pursuing the same course but a very little way received no help toward a life career. It was not vocational for them because they got so little of it.

The intention of differentiated courses after the sixth grade seems to be to organize education on a vocational basis not for the few, as formerly, but for all. All colleges are vocational for those who attend them. Oxford and Cambridge, two of the most celebrated liberal universities in the world, are highly vocational. Their graduates have been the rulers of England for generations. They are vocational, and all the schools that fit for them are consequently vocational, too. A life aim that has good chance of realization is the impelling force among their students. They intend to make practical use of their education. Circumstances permit them to take the long look ahead. Not so the army of young people who must begin to earn their living as soon as the law permits their parents to take them out of school. Vocational education aims to care for these neglected ones while not neglecting the more fortunate.

The advocates of early vocational education have no fear that their propaganda will endanger liberal education. On the contrary, they hold that the reorganization of education on a vocational basis will give motive for extended education and thus provide time and opportunity for liberal culture. They advocate the education of the individual along the lines of his greatest endowment and as broadly as possible. The antiquated liberal plan assumed that those who found books too much for them would drift into the ranks of the manual workers and get on as best they could there. In abandoning this view it is not necessary to go to the opposite extreme, namely, that pupils should be tested and all prove to be skillful with their hands be trained for the trades and those who show no aptitude for handwork be left to drift into the professions. The one test is no more decisive than the other. Of the two, however, the second is less fraught with danger, for in the shop as well as in the classroom there is opportunity to discover pupils who are fitted to deal with theories and general applications of ideas.

J. H. V. S.

School Surveys and School Supervision

PRIOR to the present school year some twenty formal school surveys had been made by outside examiners and the findings published. The year 1914 was less productive in this direction than any one of the three preceding years. Only Springfield, Illinois, South Bend, Indiana, and Butte, Montana, reported such surveys, the first made by the Department of Education of the Russell Sage Foundation, the second by the Department of Education of the University of Chicago, and the third under the direction of Professor G. D. Strayer of Teachers College, New York. Even those surveys which for local reasons have not been immediately productive of improvement within the system surveyed have contributed their quota to the sum total of experience in this new field of educational effort.

The service which they have rendered to individual school systems, however great it may have been, is far surpassed by the widespread tendency which both directly and indirectly they have stimulated toward self-examination within the school system. The critically judicial attitude now manifested by the majority of reporting officers which has replaced the attitude of self-complacency so conspicuous in school reports of a former decade is one of the most noticeable features of the annual reports of superintendents of the current year.

Not many years ago Dr. J. M. Rice, the pioneer outside investigator of school systems, said that experience had taught him to place no reliance whatever on reports published by school officials regarding the condition of their schools, such reports being frequently no more than political documents, and consequently, as a rule, entirely misleading. There is no surer indication of the great change for the better that has come about in school administration than the frankness with which defects are set forth in school reports and the temperate statement of merits claimed. The supervisory officers by no means regard themselves as being most acceptable in their several communities when they pose as presiding over schools which have little to desire in the way of improvement. On the contrary, for the most part, they regard themselves serviceable in proportion to their ability to see defects and to suggest remedies—a remarkable change, indeed, in the eighteen or twenty years since Dr. Rice did his pioneer work.

Several of the larger cities have established permanent bureaus of efficiency. The most recent instance is that of Detroit. The Detroit enterprise emphasizes a tendency which has very recently developed in our large cities toward placing all experimental work in the hands of one person who can give it his undivided attention. The Detroit department, besides furnishing the statistical and reference service common to all such departments, proposes to conduct such researches as the department can carry on through paid assistants, and in addition to organize and direct educational research among volunteer workers in the school system. This is to be co-operative work. By subdividing the various investigations into small parts only a few hours' time on the part of any one teacher will be required. Not every teacher is fitted by training to take part in pure research, nor is every teacher desirous of participating. It is believed, however, that enough volunteer workers will offer to co-operate in a clearly outlined plan which has for its general purpose the lightening of the labor and burden of teaching, which is "the blind unsuccessful struggle against unrecognized obstacles." To this end tentative standards of measurement of results in arithmetic, handwriting, English composition and spelling, based upon the measurement of many thousands of children in Detroit and other cities, are explained, and the aim set up to determine the degree of skill that should be developed. Methods are to be found "which will develop optimum degrees of the mechanical skills with the least expenditure of time and effort." These are to be desired "because of the large amount of time that would be set free for work of greater value." The standards arrived at leave the teacher free to choose his own methods of securing an output of the quality desired. "The whole effort toward standardization has for its purpose not the increase of mechanical drill work, but its reduction to a safe minimum." The clear recognition which the Detroit Department of Educational Research gives to the fact that in the three R's it is a waste of time to drill for the attainment of standards of work that are beyond the reach of a majority of the children, constitutes a service in a field in which an authoritative statement of this kind was much needed. It may yet be possible to retain the best features of our enriched curriculum by utilizing time saved from needless and fruitless drill. We need not fear that standardization of the three R's, the tools of education, will affect adversely the work as a whole. On the contrary, it will set free a vast amount of energy that is now being misdirected which may be applied to really educative work.

J. H. V. S.

Public Education and the Federal Government

ONE of the most significant movements in education in this country is the centralization of authority. With the passing of time larger and larger units of control have been created, and duties and obligations hitherto ascribed to or neglected by local administration officers have been assigned to the governing bodies of the larger units. This has resulted in increased efficiency in the collection and distribution of school funds, in improving the training and personnel of the teaching force, and in standardizing the curriculums.

Practically every State recognizes the importance and value of an intelligent citizenship, and it recognizes that this can only be secured through the agencies of public education. Consequently the State governments have been gradually assuming greater responsibility in the organization, management and administration of public schools. But the Federal Government has not yet realized that this principle applies with equal force to it. If it is the business of our schools to prepare for democracy, then that should be assured the children of every district, no matter how poverty-stricken or remote it may be. Moreover, the very nature of our society and the size and comparative newness of the country tend to produce an exceedingly mobile population. More than 50 per cent. of the inhabitants of the Western States were born in other States. Every State has its share of newcomers. Democracy, therefore, cannot be an affair of a given district or State; it assumes national proportions.

The 17,000,000 children enrolled in the public schools of this country do not have an equal educational opportunity. The school year ranges from 92 days in South Carolina to 194 in Rhode Island. The average number of days attended varies from 43 in Louisiana to 121 in the District of Columbia, while the per cent. of attendance varies from 32 in Louisiana to 70 in Oregon. Differences as striking are discoverable when city schools are compared with rural schools, or when States that are essentially urban are compared with States that are essentially rural. It is known that the average rural child receives only about 64 per cent. as much schooling as the average city child. These differences, of course, may be decreased in time by State action, but even then equal educational privileges will still be a myth. Divergences of this sort can be reduced to a minimum only through Federal support and Federal control.

It is notorious that teachers no longer pay any heed to State lines.

They shift with great rapidity from one State to another. While this has its compensations, it also has its handicaps and dangers. The teacher-training agencies of the different States vary greatly as to their effectiveness, and the standards employed by the various States for the certification of their teachers are often very unlike. When all the teacher-training institutions are working full force, they turn out less than one-fourth the number of trained people needed to fill the vacancies that occur annually. A thoroughly efficient system of education will call for an elimination or reduction of these differences.

These are only a few of the features that are fundamental to the perpetuation of a consistent democracy and to the establishment of a real system of education. The nation must realize that it is as important to expend money for the training of children as it is to appropriate large sums for agriculture or internal improvements. It should recognize that a universal democracy is at present largely dependent upon the type of elementary schools that we maintain. To make these as effective as possible, Federal legislation should be enacted prescribing the length of the term, regularity of attendance, the qualification of teachers, and perhaps the minimum essentials of the curriculum. In addition to this, the Federal Government should subsidize the normal schools and perhaps the students, so as to insure a larger percentage of trained teachers. L. D. C.

The University-High School Relationship

MR. C. D. KINGSLEY, Chairman of the Commission of the N. E. A. on the Reorganization of Secondary Education, has recently pointed out a definite issue which his subcommittee on Articulation of School and College is facing. The issue is this: Can the various current and to-be-projected high-school types of curriculums, "planned more carefully in accordance with the psychology of adolescence and guided by the fundamental aims of a sound social economy," offer the best possible foundation for advanced general or vocational education of college or technical school? The probable attitude of this important Commission is indicated. It is that, at the present stage of development, public high-school education has reached the point where new bases for curriculum differentiation must be accepted. Formerly the prevailing typical high-school curriculums have been "conspicuous for their deferred values." Now two curriculum types must be evolved. One of these shall be the "general curriculum;" the other, the "special curriculum." This general curriculum must differ widely from the traditional college preparatory curriculum "by giving greater place to English literature, English composition, both written and oral, socialized history, economics, community civics, general science, elementary biology, agricultural science and household arts," all so arranged, somewhat as the proposed three-cycle arrangement for France, that "more definite and tangible results" may be secured to the pupils leaving before the curriculum is completed. This "general curriculum" becomes of greatest importance thus for secondary education and must furnish the common elements of this grade of public education, influencing the choice of vocation, and containing electives by which in different subjects, suited to special aptitude and ability, each student may secure elements of culture.

Distinguished from this "general curriculum," with its "college preparatory and other variations, we have the special technical curriculums" definitely organized to develop efficiency in a clearly recognized and sharply defined vocation.

What will the universities have to say? News of the month has it that Dean Randall of Brown University, for experimental purposes, admitted to the college ten students, all of whom had failed to satisfy entrance requirements. With one exception these men proved to be "unusually good students and worthy of the opportunity which was open to them." It is certainly true that frequently those who pass tests of admission or school certification standards are plainly unprepared, while others, as the nine men above, unable to pass such tests, are fully prepared to do college work. Despite these facts, the disposition in the best universities is to make entrance requirements more exacting—this in the interest of scholarship standards.

It is futile to condemn either attitude. It is more important to try to understand both, and then possibly to restate the problem. The present issues may be thus formulated. On the one hand, how shall we remove unnecessary restrictions upon the high school in its efforts to introduce a richer general curriculum and to offer more effective special curriculums? On the other hand, how may a relationship with the university be established which will strengthen rather than weaken the efforts to raise the standards of scholarship.

It seems that the entrance requirements might be more exacting, at least more definite in special subjects prescribed, if we should differentiate between the necessary entrance standards for the different colleges of the university, and if also we should officially approve or sanction still other subjects and curriculums as advisable for those groups of the high-school pupil body who have no college expectations. The university should do more educationally for the high schools of the State than literally prescribe its own entrance requirements. It could reach a clearer agreement with the influential high-school men of the State if it as an institution should frankly recognize that the high school has in the future, because of its different pupil groups, divided with reference to their life purposes and character of life work, inevitably some five or six distinct curriculums to conceive more clearly and to administer more rigidly. The larger high schools can do and in fact are doing this very thing—running many curriculums or semi-curriculums. The smaller schools are in the stage of compromising between college preparatory and what we might call trade education standards. Their single curriculum is mostly a prescribed one, but from now on we may expect many curriculums of these small schools to adopt State and community standards where these may conflict with university entrance standards. The thing to do seems to be for the university to "accredit" the larger schools administering several curriculums, *rigidly with reference to their curriculums and with no reference to their graduation standards* for other curriculums than the college preparatory. A compromise, if possible, should be effected with the small schools, making the standards more exacting, if necessary, but with reference to "courses" merely and not "curriculums." In this way the university could afford officially to endorse or sanction, not only the work of the high schools which pupils must have in order to do successfully the different kinds of university work, but also in this way encourage still other kinds of work which the modern high school must also do. In this way, too, the more exacting requirements for entrance, if they still seem necessary, would be more loyally supported by the school men. The curriculums of high schools are expanding, and inevitably and fortunately, I believe, more readily and variously than the instructional offerings of the college can do. Then, too, the college organizes and administers its courses and semi-curriculums partly as conscious selective instruments, turning away even seriously-minded students who from lack of preparation cannot do its particular kind of work. The high school must keep as many of its pupils as long as it can furnish for them something likely to have some practical bearing upon the practical life immediately ahead. Entrance credits must finally be based upon some adequate method of co-ordinating the special high-school pupil's work with the same or similar work in a higher institution. The point is that, by the university's recognizing the "graduating value" of work of high-school grade which does not articulate with anything which is offered in her colleges, she is assuming a sort of directive leadership which will put her in a position to make her own selective principle of entrance requirements as exacting as the cause of a higher grade of scholarship calls for.

If, therefore, when the universities send out to high schools printed entrance requirements, they would also send out carefully formulated statements of why the requirements of the different colleges and in the different subjects are thought necessary—that is, would explain how these specified knowledges and definite trainings required are essential *tools* in higher or more advanced college work, the way would be paved for a higher standard of entrance requirements, at least more definite standards, and for a better grade of freshman students. Incidentally such a document would add to the university's prestige and general reputation. No university has given in understandable language full reasons for their entrance requirements policy. Such a publicly distributed document of university policy would be a widely read piece of educational literature.

C. H. J.

BOOKS RECEIVED TO DECEMBER 1, 1914.

(More extended reviews of some of these books may be expected in later issues.)

Ellwood P. Cubberley. *State and County Educational Reorganization.* A Revised Constitution and School Code of the State of Osceola. New York. Macmillan Company. 1914. Pp. xx. $1.25.

This important contribution will receive extended notice in a later issue of this journal.

Henry S. Curtis. *Play and Recreation for the Open Country.* New York: Ginn & Co. 1914. Pp. xiii, 265.

Rural sociology is concerned, among other things, with the elimination of the sordid and overserious character of much of our rural life. Isolation and self-sufficiency have displaced the interdependence and sociability that formerly prevailed in rural neighborhoods. This book sets forth a number of definitely organized concrete schemes for the introduction of play and recreation in rural homes, rural schools and rural communities. It is a pioneer in this field and deserves a wide reading.

Will Earhart. *Music in the Public Schools.* Washington: United States Bureau of Education Bulletin. 1914. No. 53. Whole number 607. Pp. 81.

A comprehensive report of value to superintendents and teachers showing the extent to which music is included in the regular program of studies, the amount of time given to it, the relative emphasis given to its different aspects, the methods of instruction in vogue and the types of community service music is rendering.

Edward C. Elliott. *City School Supervision.* Yonkers: World Book Co. 1914. Pp. vii, xi, 258.

Most of the material contained in this book was collected for the Committee on School Inquiry of the City of New York. The book presents a detailed analysis and distribution of authority of the supervisory agencies of New York city. The chapters dealing with "Methods and Standards for Determining Teaching Efficiency," "The Rating of Teachers" and "Salary Schedules" are of particular interest and value to superintendents everywhere.

Charles Hughes Johnston and Others. *The Modern High School: Its Administration and Extension.* New York: Charles Scribner's Sons. 1914.

To be reviewed at length later.

Homer Walker Josselyn. *Survey of Accredited High Schools and Professional Directory of Kansas.* Bulletin of The University of Kansas. No. 16. July, 1914. Pp. 252.

This survey contains an unuauslly valuable statistical and graphical presentation of facts relating to the adequacy of the teacher-training agencies of Kansas and the present situation in the State with reference to the supply and demand of teachers in each of the high-school subjects. The report also includes an intensive study of 62 high schools in the North Central Association list.

THE TEACHING OF READING. Trenton: Department of Public Instruction. 1914. Pp. 70. Appendix. Pp. 16.

A helpful monograph, prepared by Mr. George A. Mirick, Assistant Commissioner of Education of New Jersey, setting forth the principles underlying the teaching of reading grade by grade, and describing a number of type lessons for each of the grades. The Appendix consists of three reprints of studies made elsewhere for the purpose of ascertaining the reading selections used in each of the grades of elementary schools.

PAUL MONROE, EDITOR. *The Principles of Secondary Education.* New York: Macmillan Company. 1914.

To be reveiwed at length later.

ERNEST C. MOORE. *How New York City Administers Its Schools.* Yonkers: World Book Co. 1913. Pp. 309.

As any system enlarges there is always present the danger that it will create a cumbersome and unnecessarily complex machinery for its administration. No city system of education illustrates this better than New York city. Professor Moore, by the most complete massing of facts hitherto presented, shows how a system of schools like that of New York city may be handicapped by the existence of too many committees of the board and by a failure to define adequately their separate responsibilities. This report, aside from being a severe indictment of administrative officiousness, is a most valuable exposition of the principles that should govern the administration of a large system of schools.

E. N. AND G. E. PARTRIDGE. *Story Telling in School and Home.* New York: Sturgis & Walton Company. 1914. Pp. 323. $1.25 net.

The first part of this book is a discussion of the value of story telling, both as an art and as a practical educational method. In the second part 18 stories are retold in a delightfully simple and interesting manner. This book quite fulfils the purpose for which it was written, that of being "helpful to all amateur story-tellers."

G. E. PARTRIDGE. *The Genetic Philosophy of Education.* With an Introduction by G. Stanley Hall. New York: Sturgis, Walton & Co. 1912. Pp. xvii, 401. $1.50.

The so-called genetic school of philosophical psychologists is supposed to represent a unique attitude toward school problems and educational procedure generally. It has been difficult for those not trained at Clark University to see unity in the bewilderingly varied contributions of President Hall and his followers. This book presents a formulation of those main teachings, being "an epitome of the published writings of President Hall, and solely that." This is a large service, as President Hall's collected works include 295 titles of books and articles, almost all bearing directly upon the subject of education.

C. K. Studley and Allison Ware. *Common Essentials in Spelling.* California: Chico State Normal School. Bulletin No. 7. 1914. Pp. 158.

One of the hopeful signs of the times is the numerous attempts that are being made to determine minimum essentials in the different elementary subjects. Ayres, Jones, Burke and others have prepared minimum spelling lists based upon the words actually used by pupils in their correspondence or compositions. The authors of this study collected 920 compositions, written by children in school from the third grade to the eighth grade, inclusive, and made a count and an analysis of every word contained therein. Out of an aggregate of 200,000 words, 3549 different words or forms of the same words were found to be used. These words were listed in the order of their frequency and by half-years. Out of these, 3470 were selected and graded according to the half-year in which they appear to give the greatest difficulty. The number of new words introduced in each grade is as follows: Third grade, 340; fourth grade, 530; fifth grade, 700; sixth grade, 880; seventh grade, 1020.

A most significant and striking feature of this study is that it verifies and confirms most of the words in the Ayres' and Jones' lists. Not many more such thoroughgoing and painstaking investigations will be needed before we shall have listed those words that represent our common stock of ideas and that should be the common possession of all.

Arland D. Weeks. *The Education of Tomorrow. The Adaptation of School Curricula to an Economic Democracy.* New York: Sturgis & Walton Company. 1913. Pp. x, 232. $1.25.

This book attempts to set forth in three parts the problems of current curriculum making. Part I is devoted to a classification of kinds of knowledge the schools must dispense; Part II considers the means, the school, the home and other agencies for diffusing these kinds of knowledge, and Part III is taken up with the critical analysis of typical overbalances in present curriculums, and with the formulation and justification of what the author considers a more desirable—a better balanced—curriculum.

The terminology of the volume reflects the author's interest in "economic democracy," and somewhat restricts, perhaps, for the schoolman more than the author would wish the meanings conveyed.

VOLUME I FEBRUARY, 1915 NUMBER 2

EDUCATIONAL
ADMINISTRATION AND SUPERVISION

School Measurements and School Adminstration

Don C. Bliss
Superintendent of Schools, Montclair, N. J.

THE general interest in standard measurements found in all school circles marks a forward step in educational practice, because these measurements provide, in place of a subjective standard, an objective one which is equally valuable to the superintendent in formulating a general school policy and to the teacher in carrying on the daily work of the classroom.

Three factors must be perfectly clear to every teacher if our schools are to reach the standard of efficiency which she herself desires and which is demanded by the public whose interests she serves: the teacher must know and know absolutely the actual condition of the class when she begins her work; she must visualise definitely, both for herself and for the pupils in the class, the goal she expects to reach, and as an essential condition of attaining this end she must know just how far the effort expended serves to advance her toward it. The standard test, wisely administered by the superintendent, becomes a simple medium for revealing these three conditions.

There is a close parallel between the application of such measurements and the work of an athlete. Imagine a man trying to break the record in the pole vault. At the very outset he determines the exact height at which he can clear the bar. Then, day after day, inch after inch is added until finally he approaches the standard. This stimulates him to greater efforts and the record is broken.

No one believes that such success could have been attained by simple practice at pole vaulting, with no regard for the three factors of original height, record to be broken, and measure of constant development; yet such a disregard of vital elements is just the trouble with a large proportion of the teaching in the public schools. The time schedule and the daily program call for a certain number of minutes of reading. With many teachers there ensues simply a ''next, next'' order of procedure. Neither pupil nor teacher expects to get anywhere, and this lack of expectation is accompanied by a lack of results. Fourth-grade children read just as well as sixth-grade children, and in some cases better. The same thing is true of penmanship if children simply follow the copy. The energies of the best teachers are absorbed in correcting the bad habits developed under the careless teaching of preceding years. A similar situation may be found in every grade of the elementary school and in most subjects of the high school, although some exceptions occur, as in the case of stenography, in which the usual practice is to require a speed of a definite number of words per minute. If this is required the class measure up to the standard, and they do it because the standard is definitely fixed and every pupil knows that he must reach it in order to qualify. No one can for an instant suppose such a speed would be reached if stenography were taught forty minutes a day with no fixed requirement. It all comes back to the fundamental proposition that school accomplishment is conditioned upon a definite goal and constant measurement of progress. Without these ideals the class is just as likely to go like a crab, sideways, or even backwards, and never be aware of the direction.

There is really no justification for the fear which some people have of standard measurements, for in one form or another they have always been in use. No board of education ever selected a superintendent without taking his measure in terms of a standard which the board members had in mind. No superintendent ever selected a teacher without taking her measure in terms of his ideal teacher. No teacher ever promoted a class without measuring every pupil in terms of her mental standard. The trouble with these measures is that they are based entirely upon the judgment of the individual, and are susceptible to constant change. What is needed is a standard corrected by a large number of judgments and so established that it will not vary even if the individual's liver is out of condition, or be modified by his hour of retiring the previous night.

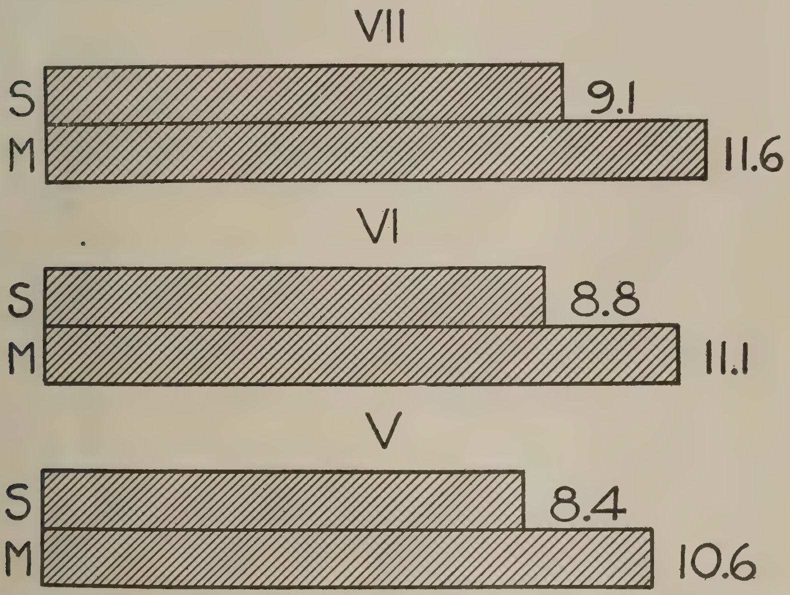
It would appear that standard measurements are possible in all subjects involving the development of power. Good handwriting does not depend upon memory, but it does depend upon power to visualise the perfect letter-form and ability to execute that form. Skill in drawing depends upon seeing things exactly as they appear and power to reproduce what is seen. A child reads well not because he has used one book or another, not because he has learned the words in one way or another, but because he has developed power to get the thought from the printed page. English composition is largely a question of trained skill in the use of language. Such subjects as these are wholly unlike those which depend upon memory. At the present time it is not clear how to standardize results in such subjects as history and geography. The nearest approach to it is the formal examination. If the questions asked are those which the student knows, he will gain a good rank. If the questions asked are those which he has not been taught, he will rank poorly, although he may actually know more of the subject than another pupil whose per cent. is higher. In other words, there does not seem to be any historical or geographical power independent of an exact knowledge of facts. It is largely a question of memory.

Much of the objection to standard measurements comes from those who argue that it is impossible to measure certain intangible elements in good teaching which are, nevertheless, of more real value than any others. These men insist that the influence of the personality of a refined woman upon the character of adolescent boys and girls cannot be measured; that it is impossible to measure growing ideals of honor, loyalty, and patriotism. Of course such invaluable elements in education cannot be measured, but why should teachers, because certain things are immeasurable, refuse to apply the yardstick to other things which are readily measured? It is also a significant fact that the best teachers of the traditional school subjects are those who are also the most efficient in developing in pupils the qualities which all agree are preeminently valuable. It would seem that weak and careless teaching is almost always synonymous with a weak character.

If standard measures are valuable for the teacher, they are no less so for the superintendent. No system of examination that has ever been devised will afford him a knowledge of teaching conditions exact enough to enable him to formulate a wise constructive policy. Formal examinations have one inevitable result: they cause teachers to devote their best energies to cramming pupils for the sole purpose of passing examinations. It is perfectly possible to reach a high percentage of promotion, measured by examination results, while the school is on the down grade so far as those elements of education are concerned which are of the most worth. The standard test used to measure the development of power has just the opposite effect. Examinations test verbal memory, standard measures test the ability to use and apply what has been learned. There is no necessity at this time for discussing the methods by which standard tests are developed. Everyone is more or less familiar with those of Ayres and Thorndike for measuring the quality of penmanship, the Hillegas scale for English composition, and the Stone and Courtis tests in arithmetic. The practical phase of the question is the application of these scales to the actual experience of the classroom. Are they practicable for use in the work of supervision, and do they produce results commensurate with the time and effort expended? For about ten years and in four different school systems the writer has been using standard tests in his own work, and more and more they have taken the place of formal examinations, until today he practically never gives a formal examination but depends entirely upon the standard test. The records obtained in three of these school systems have been preserved, and they furnish some indication of the value of such a plan. One of the first things done in Montclair was to sweep the city with an English test. The results obtained showed that the quality of the English composition in the grades was of such a high standard as to warrant its neglect for the time being and to justify attention to other subjects in which the results were not so satisfactory. Lacking the information given by this test, it is entirely possible that the chief emphasis might have been placed upon the subject which needed it least.

The quality of the penmanship appearing in the English papers indicated a decided lack in this department. Accordingly, a complete set of writing papers was collected and rated in the office, by means of a scale derived from both the Ayres and the Thorndike scales. A tabulation of the returns justified the first impression. Conferences were held with the writing supervisor and steps taken to secure a radical improvement in the subject.

The result of the effort expended showed a most gratifying change in the writing.



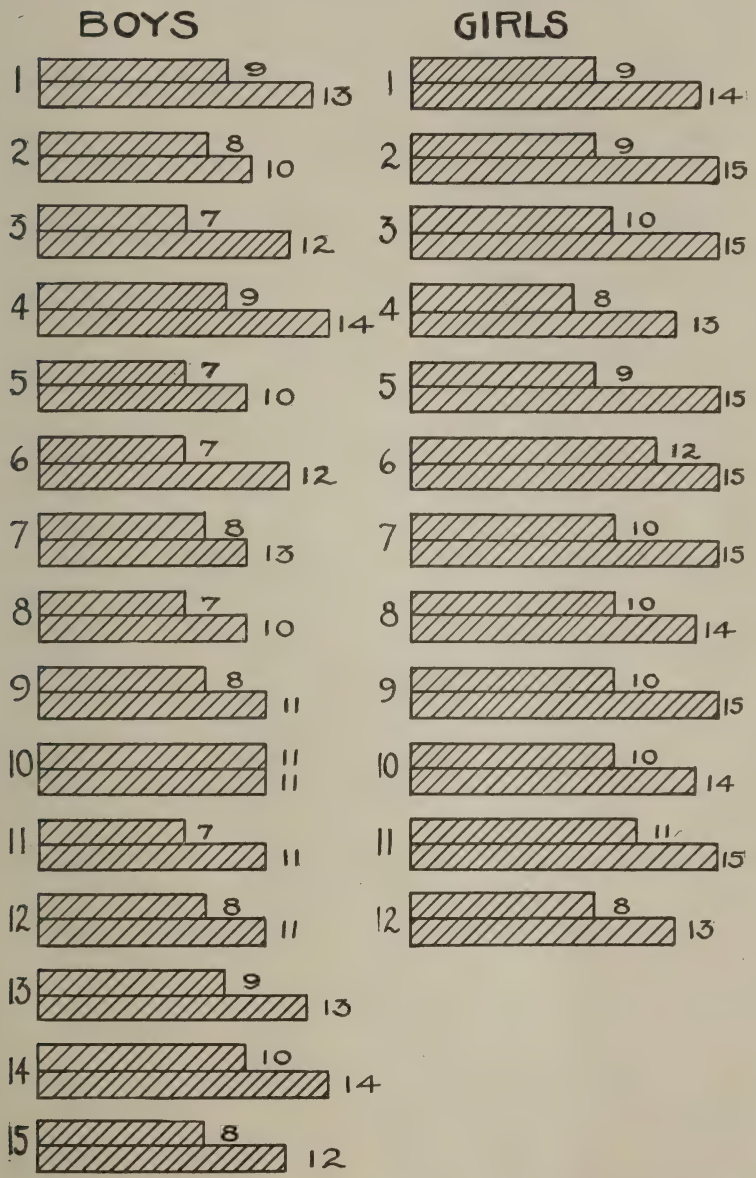
The records used in making the chart were the city averages for each of the three grades represented, the standing in September being compared with that in the following May, as indicated by the letters at the left. As the figures show, each grade raised its rank over two points in the scale.

No record is given for the eighth grade, as the pupils did not begin penmanship practice until some time subsequent to the first test.

The supervisor of writing became much interested in the possibility of using the scale to measure the progress of pupils in his department. He found it wholly feasible to rate a specimen of each pupil's work once a month, and to post a list in the different rooms giving the monthly rating for each pupil. By this plan both pupils and teacher were stimulated to do their best. The individual pupils were trying to beat their own records and the teacher was trying to raise the class average. This chart of a seventh grade shows the results actually accomplished in a single year.

Another fact which appeared from a study of the English papers was the poor quality of the spelling. Pupils failed miserably in the spelling of the common words which they were trying to use. Plainly it was of more importance for them to be able to spell *which, went* and *there* than to drill on such words as *deviation, enthrall, sumptuous,* etc., for the sake of increasing their vocabulary. In conference with the grade teachers two lists of absolutely essential words were prepared, one for the primary grades and one for the grammar schools. These were called "the Montclair 100 per cent. list," and the words selected became an individual matter for each child in the schools. Special drill was given to every child who missed any one of these words in any of his written work until it became practically impossible for him to fail on it again. After these lists had been in the hands of the teachers for about six months an attempt was made to determine the actual results of the drill. There was on file in the office a set of composition papers written by the children just before the lists were sent out, and also another written about six months later. A comparison of the spelling in these two sets of papers showed how far the pupils had increased their ability to spell the words they wished to use. The comparison was made by counting every misspelled word in the two sets of papers. The results are as follows:

Some of the principals became very much interested in the plan of measuring school progress and began to apply the idea to their own buildings. One of them used it in the work in fundamental operations. His thought was that speed and accuracy in the four operations was of primary importance. He prepared ten examples, involving these four processes, of sufficient difficulty to call for close application on the part of the pupils. These were to be solved correctly within an indicated time. Examples omitted or having a wrong answer received no credit. For addition he used ten or fifteen six-digit numbers; for subtraction, six digits from ten digits; for multiplication, seven digits multiplied by four digits; and for division, eight digits divided by three. The class average, both in accuracy and in time taken for the work, was found at the beginning of the year and the test was repeated monthly. It was kept as constant as possible by the simple transposi-



Here are recorded the individual ratings of a seventh grade, consisting of fifteen boys and twelve girls, for October and again for the following June. In nearly every case there is marked improvement, and some of the June ratings, particularly those belonging to the girls, rank high in the scale.

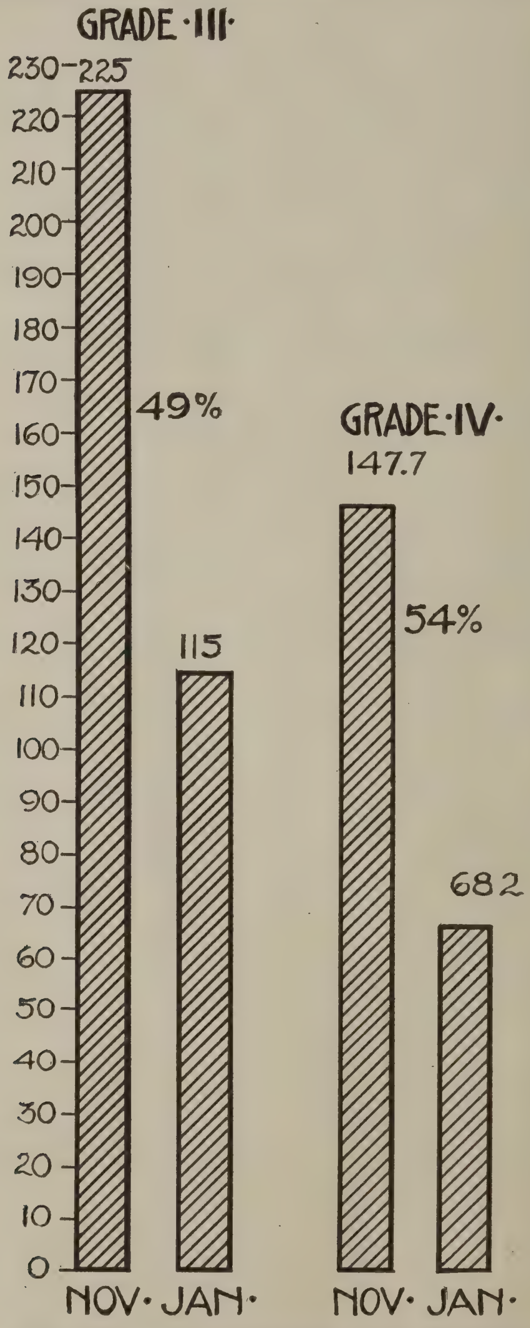
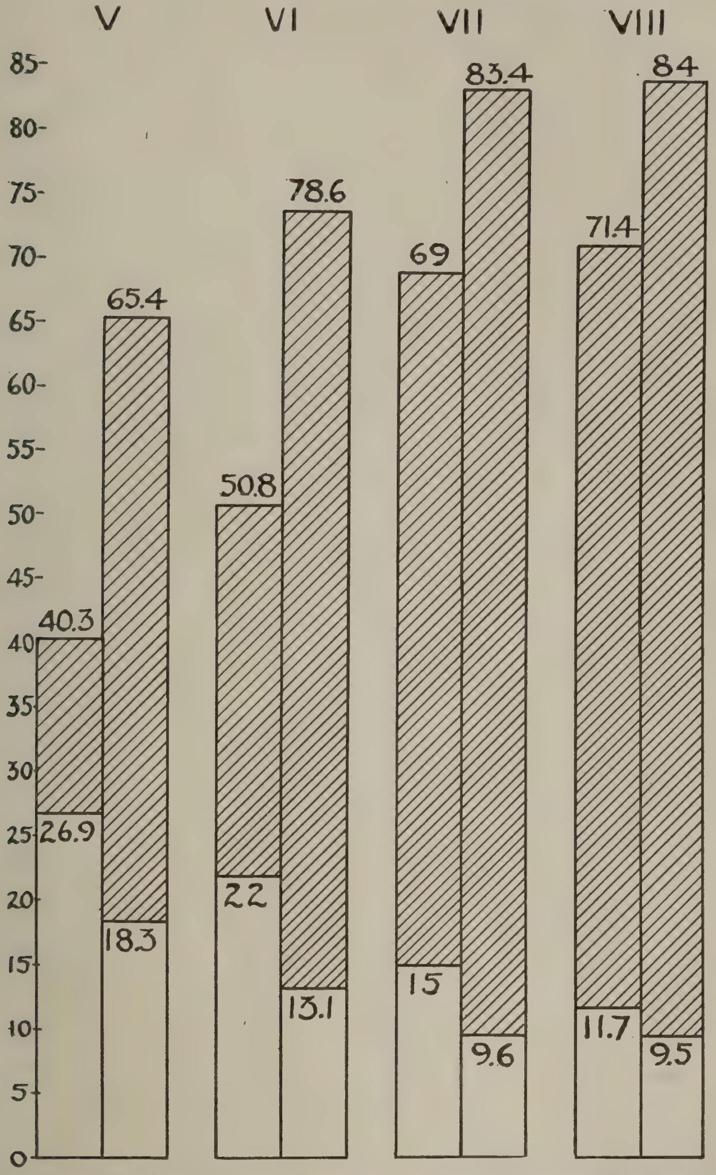


Chart giving comparison of total misspelled words, September and January. Grade III shows 49 per cent. of improvement, while Grade IV has 54 per cent. of increase in the number of words correctly spelled in January.



In this chart, for the fifth, sixth, seventh and eighth grades, the first column under each grade represents the standing in November, while the second column is the record for the following June. The figures at the top of the columns stand for the rating obtained, and those below the cross-hatching show the time used in doing the work. Thus, in November the fifth grade had a rating of 40.3 per cent. for the test in the four fundamental operations, and took 26.9 minutes to do the work. By June the class had so increased in speed and accuracy that its rating was 65.4 per cent. and its time 18.3 minutes. The increasing accuracy is evident at a glance, being indicated by the greater length of the second full column in each grade. The increase in speed shows, on the other hand, in the diminution of the white portion of the columns, since this represents the time employed. In every grade the June column is longer than the one for November, and in every grade the white portion of the column is noticeably shorter at the end of the year than at the beginning.

tion of digits. What happened the first year appears on this chart:

A similar plan was followed for the second year, and this seventh grade, when it became an eighth, advanced the accuracy record to 95 per cent., but was not able to make any material reduction in the time allowance for the solution of the ten examples.

Between the monthly tests teachers used careful drills to develop speed and accuracy. In one case a class made a deliberate attempt to raise its average ten points in a single month. In another, the teacher kept a careful record of the number of errors made by the class in each operation. The record was then used to determine which one of the four operations was productive of the greater number of errors. This knowledge became the basis for drill to correct the faults. In mentioning these results there is no idea of over-emphasizing the importance of arithmetical drill, but rather of making clear the fundamental proposition that exact and definite knowledge of class conditions on the part of the teacher is essential to economy of time in teaching. If this teacher had omitted such tests as are indicated, she would probably have given each of the four operations the same degree of attention, while, as a matter of fact, one operation needed twice as much attention as another.

For the sake of argument, suppose all of the usual protests against standard tests are conceded. Grant that the tests themselves are not scientifically developed; that they are inaccurate; that judgment in their application is faulty; that the results obtained are not what is claimed; that certain elements in good teaching are immeasurable—granting all of these things and more, the fact still remains that the conclusions reached by such tests are far more accurate than those based upon vague impressions of what ought to be.

An abundance of such scales is in existence, and the profession is now ready for the next step. It is time to cease talking about the necessity for standard measurements and to make an actual trial of those that have been developed, to determine how far they are of practical value and in what particulars they must be corrected before they can be generally employed.

Educational Diagnosis

S. A. Courtis

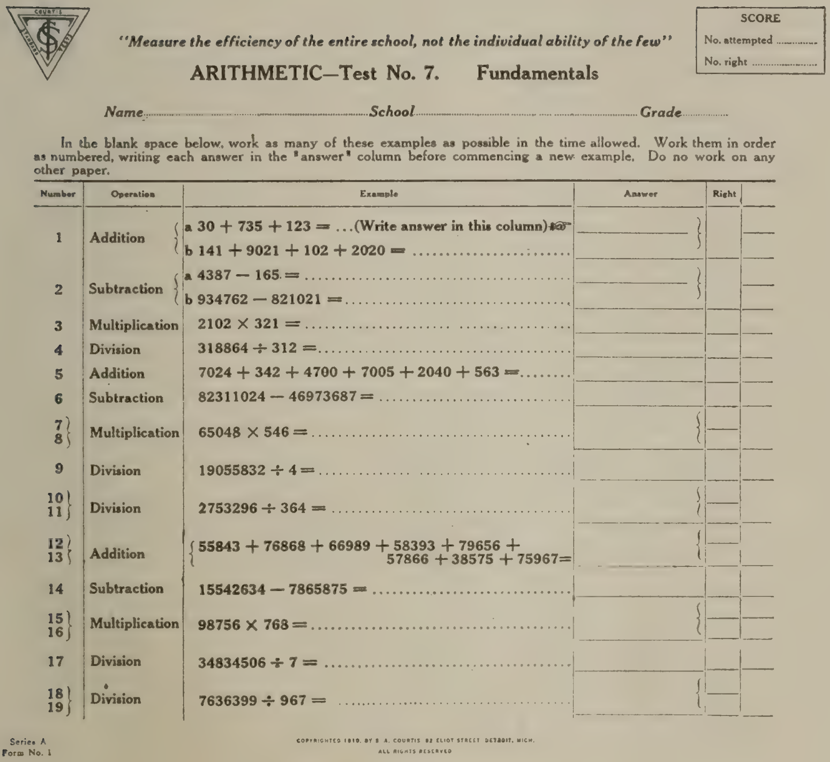
Director of Educational Research, Detroit Public Schools

THE school surveys which have been made in various parts of the country are very much alike in one particular: They all reveal conditions which mean that school work as at present conducted is exceedingly inefficient. Many people, however, do not interpret this statement properly. A process may be exceedingly inefficient and yet exceedingly important and valuable. Consider the problem of converting electric energy into light energy, for instance. The ordinary incandescent lamp is a very wasteful device for accomplishing this purpose. Its efficiency is given as somewhere in the neighborhood of 2 per cent. Yet, in spite of its inefficiency, the importance and value of electric lighting is acknowledged by all.

So with the public schools. In spite of the great progress of the last fifty years, in spite of the care and attention which are being given to educational problems the world over, the most evident effect of a school survey *is likely to be* the calling of public attention to the fact that there are still many unsolved problems in education. If this merely produces dissatisfaction in the public mind, however, school surveys must be counted as unprofitable: for, in spite of all its defects, the public school has been, and will continue to be, a great power for good in the community. Its inefficiency and its usefulness must both be kept in mind. Yet, just because education *is* so vitally important in the life of the nation, schoolmen everywhere should not be content with simply drawing *attention* to existing defects, but should try to discover the factors which condition efficiency, and to make constructive use of the knowledge gained.

As one who has had some share in bringing defects in arithmetic teaching to light, the writer wishes now to array the data obtained from testing different school systems in such a way as to indicate one of the few lines along which great advances may be made. For the various factors affecting the efficiency of school work do *not seem to be of equal value.* Rice, Stone, Cornman and many others have proved very conclusively that the factors of course of study, time devoted to arithmetic, textbook, ability of teaching, size of class, etc., which are ordinarily regarded of supreme importance are *relatively* of minor importance. Each has its effect, it is true, but the *total combined effect* of all these factors is but from one-half to one-tenth that of a single other factor—the individual differences in the native abilities of children. This is *the great determining factor* in school efficiency. And because it is equally ignored by school work everywhere, the results everywhere are equally inefficient—the existing differences from city to city being negligible in view of the very great differences which could easily be produced by attention to this one factor. The major thesis of this article is that the schools *already provide ample opportunities* for those able to learn, and that the efficiency of school work can most easily be increased not by increasing the opportunities provided, but by making *for each child* an individual adjustment of work based upon its measured needs. In other words, teachers need to be educational physicians. They must study the symptoms of the children in their charge, diagnose their educational ills and prescribe the proper remedies. The systematic collection of significant symptoms, the determination of the effects of various remedies and the invention of new methods of school administration which will enable the teacher to apply the same are to be the next steps of advance in education.

In order that all may have the same understanding of the data upon which these conclusions are based, the facts in regard to the teaching of the four operations with whole number will be briefly reviewed. In Figure 1 is shown Test 7 Series A, of the Courtis Standard Tests. Note that it deals only with addition, subtraction, multiplication and division



SCORE
No. attempted ....
No. right ....

"Measure the efficiency of the entire school, not the individual ability of the few"

ARITHMETIC—Test No. 7. Fundamentals

Name...*School*...*Grade*..............

In the blank space below, work as many of these examples as possible in the time allowed. Work them in order as numbered, writing each answer in the "answer" column before commencing a new example. Do no work on any other paper.

Number	Operation	Example	Answer	Right	
1	Addition	a 30 + 735 + 123 = ...(Write answer in this column)☞ b 141 + 9021 + 102 + 2020 = ...			
2	Subtraction	a 4387 — 165 = ... b 934762 — 821021 = ...			
3	Multiplication	2102 × 321 = ...			
4	Division	318864 ÷ 312 = ...			
5	Addition	7024 + 342 + 4700 + 7005 + 2040 + 563 = ...			
6	Subtraction	82311024 — 46973687 = ...			
7 8	Multiplication	65048 × 546 = ...			
9	Division	19055832 ÷ 4 = ...			
10 11	Division	2753296 ÷ 364 = ...			
12 13	Addition	55843 + 76868 + 66989 + 58393 + 79656 + 57866 + 38575 + 75967 =			
14	Subtraction	15542634 — 7865875 = ...			
15 16	Multiplication	98756 × 768 = ...			
17	Division	34834506 ÷ 7 = ...			
18 19	Division	7636399 ÷ 967 = ...			

Series A
Form No. 1

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FIGURE 1.

of whole numbers. It is perhaps enough to say of the testing work that precisely this same test is given *under uniform conditions* to individuals of every age, from those of third-grade children to gray-haired accountants.

The second figure shows the distribution of the scores in number of examples worked correctly in twelve minutes of some 11,000 eighth-grade children collected from many schools from all parts of the United States. The scale at the left shows the score in number of examples right. The scale at the top gives the frequency of each score; that is, the length of each column shows the number of children making each score. This is a normal distribution; the median and average closely coincide at about 9.5. Note that the range in the abilities of eighth-grade children is from those who can do none of the examples correctly to those who, under the same conditions and time limit, can get all nineteen right. The position

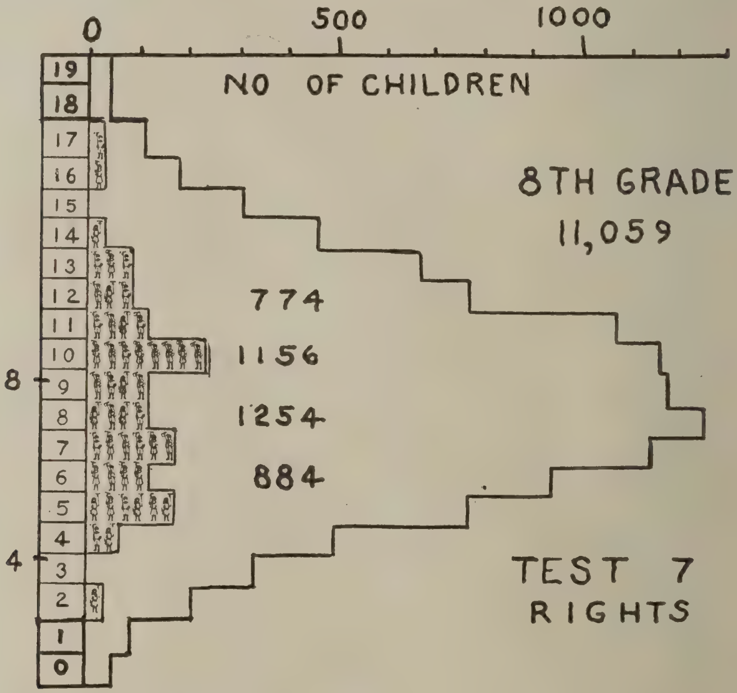


Figure 2.

of the fourth and eighth-grade averages is shown on the scale at the left. It will be seen that the average progress in four years is six examples, while the range of individual variation in the abilities of the eighth-grade children is eighteen examples, or more than three times as much.

The next figure presents the same fact in more significant form, for it shows the extent to which the fourth and eighth-grades overlap. The two distributions contain one hundred children each, and the children in the two grades making the same scores are drawn in solid black. The significant thing about this figure for our present purpose is that, while the opportunities of school work up to the end of the fourth year are sufficient to enable 1 per cent. of the fourth-grade children to attain an ability represented by ten examples right in twelve minutes, four additional years of work still leave 1 per cent. of the eighth-grade children unable to get more than a single example right.

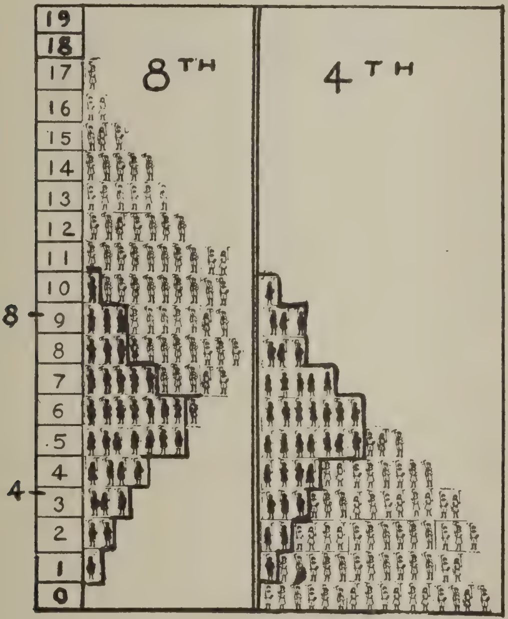


FIGURE 3.

When these results were first obtained the results seemed incredible, but in several cities measurements have been made six months or a year apart and the actual changes produced by teaching effort closely studied.

In the following graph, for instance, the upper figure shows the overlapping of the seventh on the eighth grade in October. The part in white is common to the two grades. The black represents the part of the seventh-grade distribution which is below the eighth, while the shaded portion represents the part in which the eighth is above the seventh. The lower figure shows the distribution of the seventh grade in March as compared with the eighth grade in October. The shadings have the same meaning as before, except that in this case the seventh grade has run 4 per cent. ahead of the eighth. But when the effect of the summer vacation is allowed for, it will be seen that the actual changes during the school year are accurately reproducing the conditions shown in the previous figures.

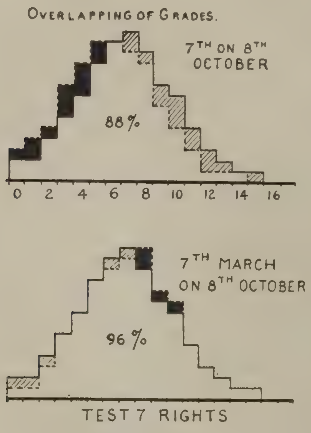


FIGURE 4.

The nature of these changes can be made plain in a slightly different fashion. In the next figure each arrowhead represents a child:

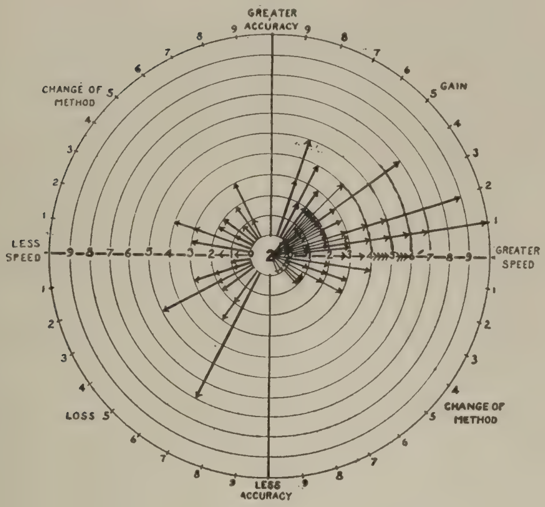


FIGURE 5.

The direction of the arrow in relation to the two axes shows both the character and the amount of its gain. This diagram presents graphically the changes which occur in one hundred representative children for six months' work in arithmetic. It is based upon more than 5000 individual cases. It may be summarized by saying that 10 per cent. of the children had markedly lower score in March than they did in October; 34 per cent. have scores which mean no change—a total of 44 per cent. whose ability to work the examples in Test 7 has not been benefited by the six months' practice. To this must be added another group of 27 per cent. whose scores show slight gain, leaving a final group of 30 per cent. whose progress may be counted as satisfactory. If, however, we count from September to September, the summer loss will bring the per cent. of children who make a reasonable gain in their school work down to 15 or 20 per cent. This makes it possible to say that in the teaching of any one phase of a subject—as work in the four operations of whole number—the present efficiency of school work is not over 20 per cent. On the basis of measurement in handwriting, reading, English composition, history, spelling and other phases of the work of the elementary school, it is possible to say that precisely similar conditions exist in each subject. The statement that the schools are exceedingly inefficient, therefore, is one which rests upon a sure foundation of measured fact.

The reader should be careful to remember the warning given at the beginning of this article and avoid misinterpreting the statements just made. They are in no sense a contradiction of the great progress the schools have made in the last fifty years, nor do they imply that the product of school work under present conditions is worthless. They mean simply that at the present time the school does not control the educative process except to a very limited degree. That whether or not a child profits by the opportunities which the school offers is determined by factors which are at present unrecognized and therefore uncontrolled.

Taking up now the constructive consideration of this statement, your attention will be called to certain phases of these results which seem so far to have escaped attention. Figure 6, for instance, shows by grades the per cent. of each class mem-

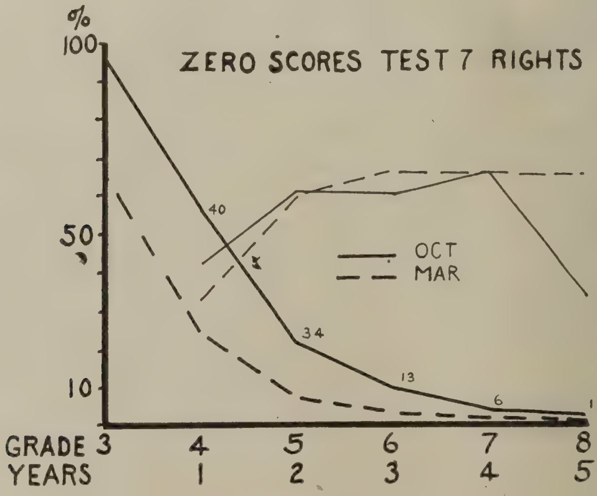


Figure 6.

bership making zero scores in Test 7. That is, how many children per hundred in each grade have not learned to get a single example right. The heavy line shows the October scores, the dotted line the March scores for about 20,000 children in one city. In other words, in October 96 per cent. of the children in the THIRD grade did not know how to work a single example of Test 7 correctly. After six months of instruction—that is, in March, there were still 65 per cent. who could not work a single example correctly. The difference, 31 per cent., represents one phase of the efficiency of the teaching, therefore, and agrees well with our previous figures. If the results are compared between the third and the fourth grade—that is a year apart, the per cent. will be found rather larger. The actual figures for the differences are given along the heavy line. That is, 56 per cent. of the fourth-grade children had zero scores as against 96 per cent. of the third grade, a difference of 40 per cent. Now please notice: 40 per cent. of the children in the third grade learned to do at least one example after one year of instruction; 34 per cent. require two years; 13 per cent. require three; 6 per cent. require four, and 1 per cent. require five years of practice to learn what 3 per cent. of the third-grade children knew at the beginning of the school year. On the basis of these and similar figures it is claimed that the school, even under existing conditions, provides ample opportunity for those able to learn. However, the total number of children who are able to profit by class instruction and the other pedagogical methods now in use is but 30 per cent. to 40 per cent. of any unselected group of normal children. The constancy of these results is quite remarkable. In the two other curves in this figure is shown the per cent. those who learn are of those instructed in any year. One curve gives the results from year to year; the other from October to March. Note that after the preliminary 30 per cent. to 40 per cent., 60 per cent. of the remaining group learn each year.

What explanation shall we give of the fact that 60 per cent. of the children the first year do not profit by the instruction which they receive? The first answer which is likely to occur to the reader is, of course, the true one: That children differ in their native ability and therefore receive unequal benefit from uniform opportunities. Thorndike has brought this out very plainly in his article in the February number of *The Journal of Educational Psychology.* One hundred and ninety-two children in grades five to eight were practiced in short periods for a total of 120 minutes on the addition of single columns of ten figures each. Under such uniform practice, what is the relation between the size of gain from practice and the size of original scores? Thorndike's figures were the basis of the graph shown in the next figure.

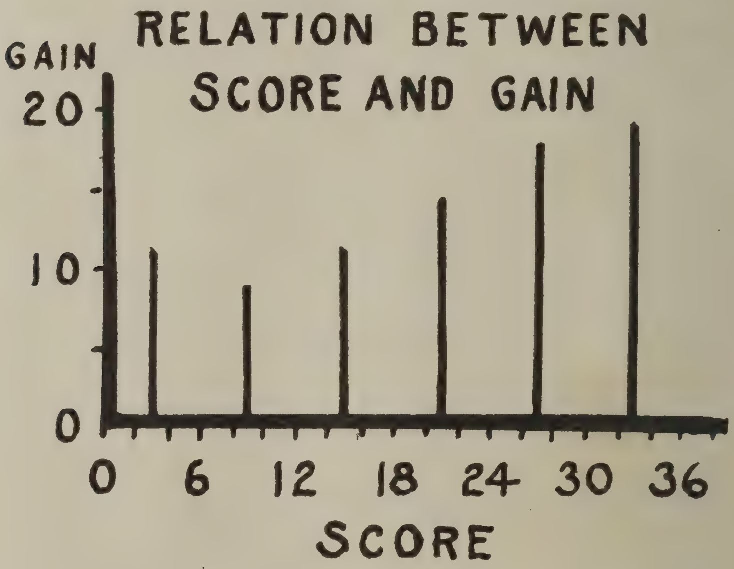


FIGURE 7.

The scale at the left gives the number of examples gained. The scale at the bottom gives the original score. Note that those having the larger scores had also the best gain. Children profit by instruction according to their native capacities, and just as long as the school continues to provide uniform instruction for varying capacities the product is bound to be uniformly variable.

This, however, is a small part of the whole story. Not only do children differ in their native capacities, but in their periods of growth as well. In the next graph, in the upper portion of the figure, is shown the curve of a single individual during two full school years. The circles on the curve indicate the time at which the tests were given. V stands for vacation; A for absence. When school opened in 1909 this individual was ready to profit by practice. Her scores rose rapidly until she had doubled her original score of 20. Note that during each vacation her loss is large, but the score of 40 is easily regained under practice; that during the months of December and January, 1910, when for nearly six weeks she had a test each week, her scores were uniformly 40; that beginning with February, 1910, she entered upon a second period of growth, when her score rose to 60 and held that level during the rest of the year and the year following, which is not shown in the figure. In the lower part of the graph these data are generalized in curve A, and over A has been drawn a second curve B, with its plateaus and growth periods occurring at different intervals. Note that of two children, each making a score of 40 on any given day, and each receiving the same amount of instruction and practice, one, a month later, might show large gains, while the other might show no gain whatever. For efficient work the teacher of a class must have a means of determining not alone the capacity of a child, but its stage of development as well.

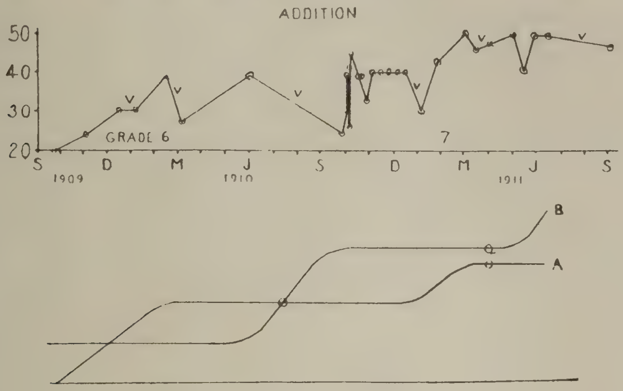


FIGURE 8.

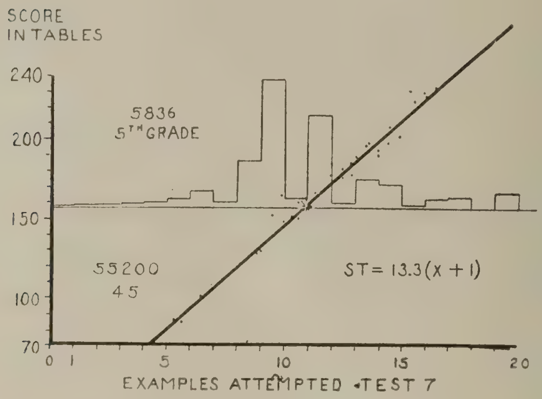


FIGURE 9.

Nor is *this* the whole story. A third factor is the difference in organization of the minds of individual children. In Figure 9 is shown the relation between score in tests which measure the child's ability to give the answer to the simple combinations in the four operations, and his ability to work the examples in Test 7. The slanting line, represented by the formula, S T = 13.3 (X + 1), where S T stands for score in the tables and X for the number of examples attempted in Test 7, shows the very high degree of correlation between these two abilities as measured by the average scores of groups

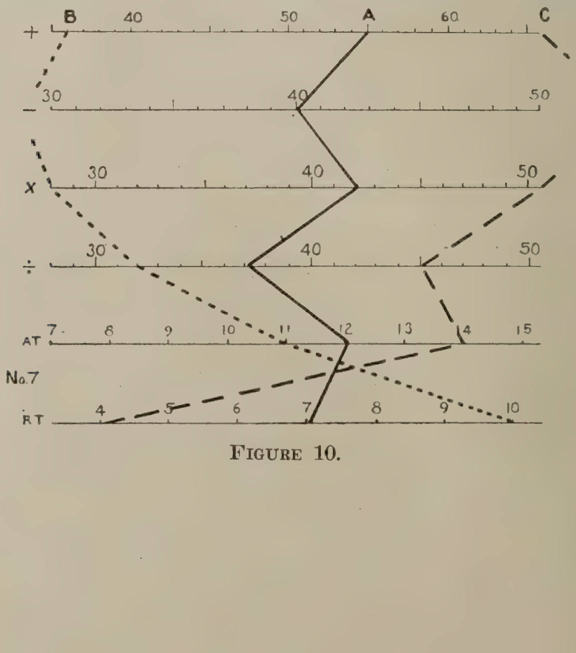


FIGURE 10.

of children. It is based upon the scores of about 55,000 children in 45 groups. Yet, if we select any one of these groups as the one represented by the large star in the center of the figure, we shall find that, although the average of the group falls exactly on the line, the individual scores vary widely, as shown by the distribution. The lack of correlation between these two abilities in individual cases is much more plainly shown, however, by Figure 10. The four upper lines represent the scores in the combination of the four operations, the two lower lines the corresponding scores in Test 7, according to the formula of Figure 9. On this diagram have been drawn the actual scores of three individuals. A is an individual whose mental organization corresponds to that represented by the formula. B, however, can give the answers to the separate combinations only at a low rate of speed, while in Test 7 he is able to work 11 examples and have 10 of them right. He does not know his tables, and yet he is able to make use of them in actual computation. Individual C, on the other hand, knows his tables very well. He is able to attempt a large number of examples (14), but of these he has but 4 right. These three curves represent the extremes of a normal distribution, each member of which needs to learn to do Test 7 in his own way. The practice that is designed for C will produce results with neither A nor B.

Many teachers find it very hard to accept these conclusions, so further evidence of the same kind is offered. In Figure 11, for instance, are shown the October and March records of two boys, both twelve years of age, both showing a gain of 75 points in their scores in the tables. A not only has a large gain in the scores in the tables, but has a correspondingly large gain in Test 7. B, on the other hand, although having an equal growth in the tables, makes precisely the same scores in Test 7—17 attempted and 9 right. His gain in the tables has evidently not been of the slightest use. In Figure 12 we again have the October and March records of two children of different mental organizations. Individual A shows an actual loss in his scores in the tables from October to March, but a very great gain in Test 7. Individual B, however, shows a very large gain in the tables and a correspondingly large loss

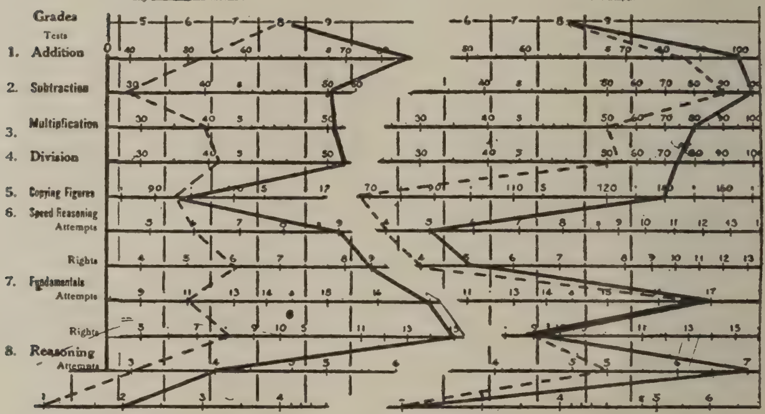
"Measure the efficiency of the entire school, not the individual ability of the few"

COURTIS STANDARD TESTS

Comparative Graph Sheet

Arithmetic

City ______ A   School B ______



INSTRUCTIONS

Find on the proper scale for each test the point corresponding to the grade average or individual score for that test, and join point to point. The curve of any grade in a "Good" school or of a "Good" scholar in the grade will lie wholly within the boundries for that grade. Excellence is shown by balance as well as by high scores.

The scales are based upon "Standard Scores" derived from the measurement of nine thousand children in sixty different schools in ten different states.

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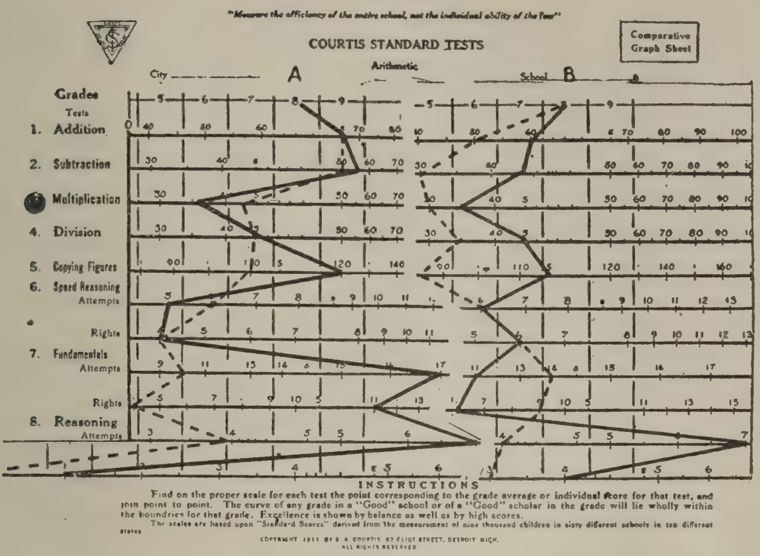
FIGURE 11.



INSTRUCTIONS

Find on the proper scale for each test the point corresponding to the grade average or individual score for that test, and join point to point. The curve of any grade in a "Good" school or of a "Good" scholar in the grade will lie wholly within the boundries for that grade. Excellence is shown by balance as well as by high scores.

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FIGURE 12.

in Test 7. We have here, therefore, an explanation of why some of the children show actual loss in spite of the best efforts of the teachers to help them. The method of drill employed is unsuited to their peculiar mental organization.

It is a commonly accepted educational principle that teachers must respect the individual differences of children, but on the practical side it is difficult for a teacher to respect differences undefined both as to amount and character. Few teachers, and even few educational psychologists, have begun to realize how extreme are the differences in the minds of individual children. In Figure 13, for instance, is shown the curve of a sixth-grade girl with reference to the standards of achievement for her grade in twenty-four particulars.

The heavy circle represents the sixth-grade standards. The other circles each represent a year's deviation from the standard; the inner circles below and the outer circles above. This curve should mean to you that this particular girl was a year older than the standard for her grade, was two years taller,

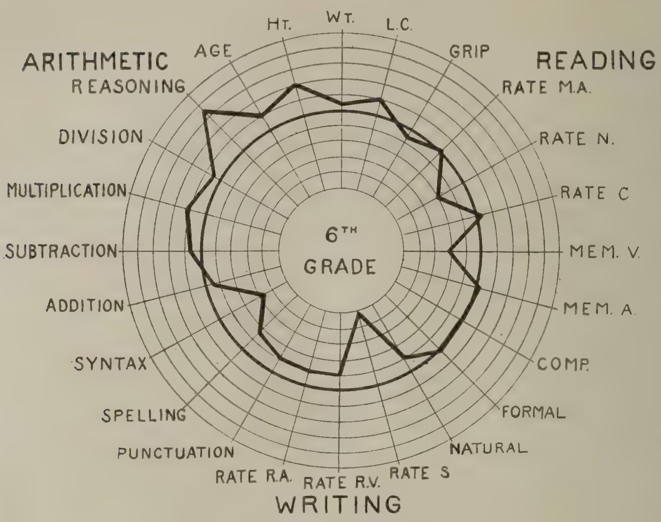


FIGURE 13.

one-half year heavier, had a year's greater lung capacity, one-half year less grip, was standard in her rate of motor activity, but was two years behind in her rate of reading. That is, she is a slow reader, but on careful reading her rate is slightly above standard. Her visual memory is poor, while her auditory memory, the quality of her English composition and of her formal handwriting are all up to standard. When she is writing an original story the quality of her handwriting falls off, and her rate of composition is very low. In punctuation, spelling and syntax she is weak, but in arithmetic well above her grade and very strong in reasoning. Now, in the next figure are given similar curves for four other individual members of the class. One can see at a glance how varied are the character and amount of their relative developments in the twenty-four different abilities.

The evidence presented so far proves that school work as at present conducted is exceedingly inefficient; that opportunities provided by the school are ample for the children who

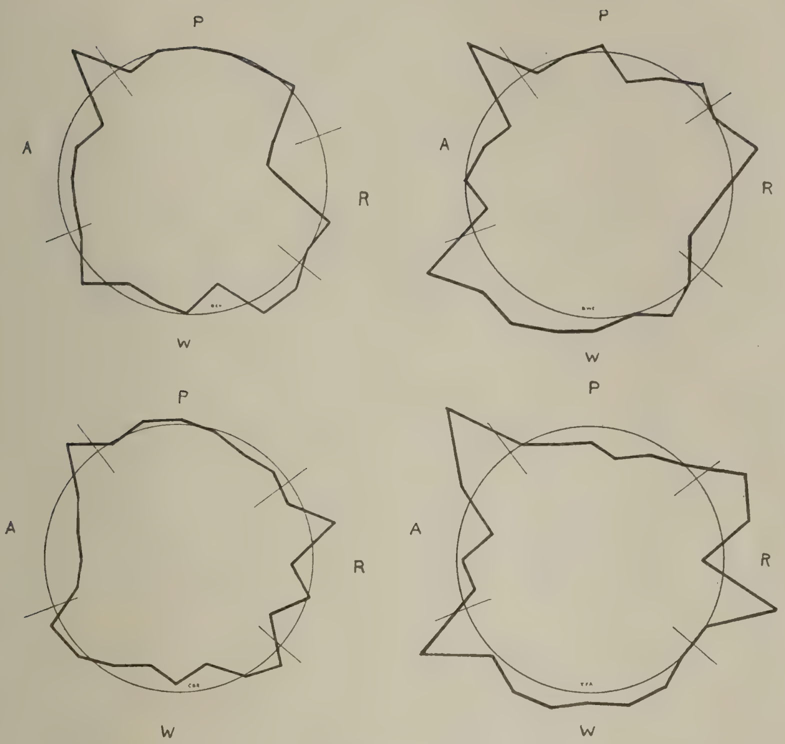


Figure 14.

are able to learn, and that the reason only from 20 per cent. to 30 per cent. of the children actually do profit by their school work in spite of the opportunities provided is that they are unable to do so because of the very large differences in their natural abilities, in their powers and periods of growth, and in the peculiarities of their mental organizations. Now the question of remedies will be considered.

Since the problem is so complicated, the first essential for efficient teaching is that there shall be definite aims. In place of the vague general aim to teach children to add, for instance, there should be definite specifications as to the degree and type of adding ability desired. The statement that an eighth-grade boy in June should be able to add correctly in eight minutes twelve examples, each three columns wide, each column nine figures long, is an illustration of what is meant by definite aim. Precisely similar statements could be made for each of the other operations. Such a formulation of definite aims pro-

Measure the efficiency of the entire school, not the individual ability of the few.

Arithmetic. Test No. 1. Addition.

Series B.

SCORE
No. Attempted ....
No. Right ....

You will be given eight minutes to find the answers to as many of these addition examples as possible. Write the answers on this paper directly underneath the examples. You are not expected to be able to do them all. You will be marked for both speed and accuracy, but it is more important to have your answers right than to try a great many examples.

927	297	136	486	384	176	277	837
379	925	340	765	477	783	445	882
756	473	988	524	881	697	682	959
837	983	386	140	266	200	594	603
924	315	353	812	679	366	481	118
110	661	904	466	241	851	778	781
854	794	547	355	796	535	849	756
965	177	192	834	850	323	157	222
344	124	439	567	733	229	953	525

537	664	634	572	226	351	428	862
695	278	168	253	880	788	975	159
471	345	717	948	663	705	450	383
913	921	142	529	819	174	194	451
564	787	449	936	779	426	666	938
932	646	453	223	123	649	742	433
559	433	924	358	338	755	295	599
106	464	659	676	996	140	187	172
228	449	432	122	303	246	281	152

677	223	186	275	432	634	547	588
464	878	478	521	876	327	197	256
234	682	927	854	571	327	685	719
718	399	516	939	917	394	678	524
838	904	923	582	749	807	456	969
293	353	553	566	495	169	393	761
423	419	216	936	250	491	525	113
955	756	669	472	833	885	240	449
519	314	409	264	318	403	152	122

Name..**Grade**..............................

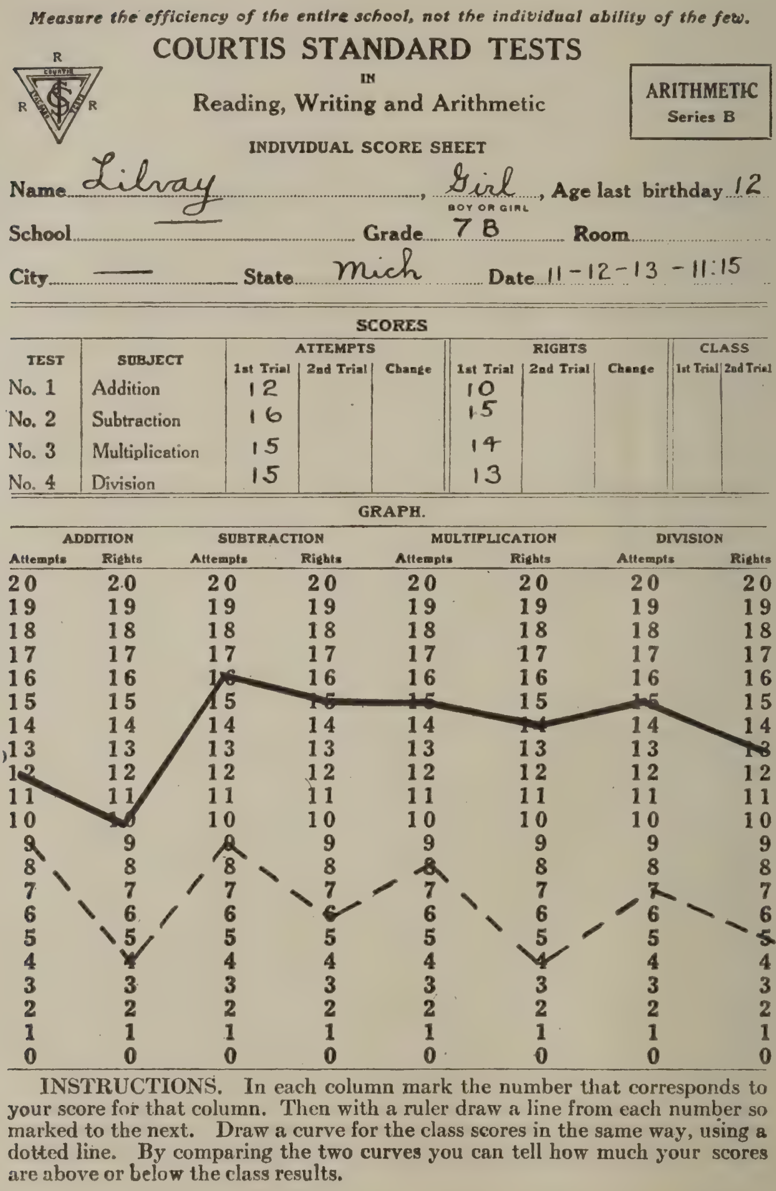
FIGURE 15.

vides at once a means of measurement of initial ability and carries with it a new idea in education—that is, limitation of training. In Figure 16, for instance, the first graph shows the record of a girl in the seventh grade, and the dotted line the record of the class. Note that the girl's scores in every operation are much above the class average, and in all the operations, except in addition, they are very high; so high that, in spite of the fact that this girl is but twelve years old and in the seventh grade, they exceed the performance of many adult bookkeepers and accountants, both as to speed and accuracy. Why should this girl take part in further drills in computation, unless it be in addition? She is certain to be required to do so as long as the group of which she is a member is treated as a class. The setting of definite requirement as twelve examples in each of the four operations and the elimination of this girl from the class drill as soon as the required standard ability has been reached would improve the efficiency of the teaching. Neither the girl nor the teacher would then waste time in useless drill.

This point needs to be made very plain. At present teachers are trying to develop each child just as much as possible. But if every adult in Detroit could be measured in respect to his ability to add, and if this ability could then be correlated with annual income, the curve derived from the data would probably rise to a maximum and then decline.

To be sure, this statement is based upon very meager data, but there is some basis for it, and a little consideration will show that after a certain optimum value is reached, ability to add should cease to be a factor in determining the earning capacity of an individual. Why, then, should a child waste valuable time in developing extreme skill in such a mechanical ability as addition? The answer is that he should not. Commissioner Snedden has suggested that standard scores should be optimum, not maximum, scores, and teachers should adopt "limitation of training" as a fundamental doctrine of their educational philosophy.

Note the curve of another individual, John, age 13 years, also in the seventh grade. In addition he tried seven, and had none right; in subtraction, five, and had none right; in multiplication, six, and had none right; in division, four, and had



Measure the efficiency of the entire school, not the individual ability of the few.

COURTIS STANDARD TESTS

IN

Reading, Writing and Arithmetic

ARITHMETIC
Series B

INDIVIDUAL SCORE SHEET

Name Lilray, Girl (BOY OR GIRL), Age last birthday 12

School .... Grade 7 B Room ....

City —— State Mich Date 11-12-13 - 11:15

SCORES

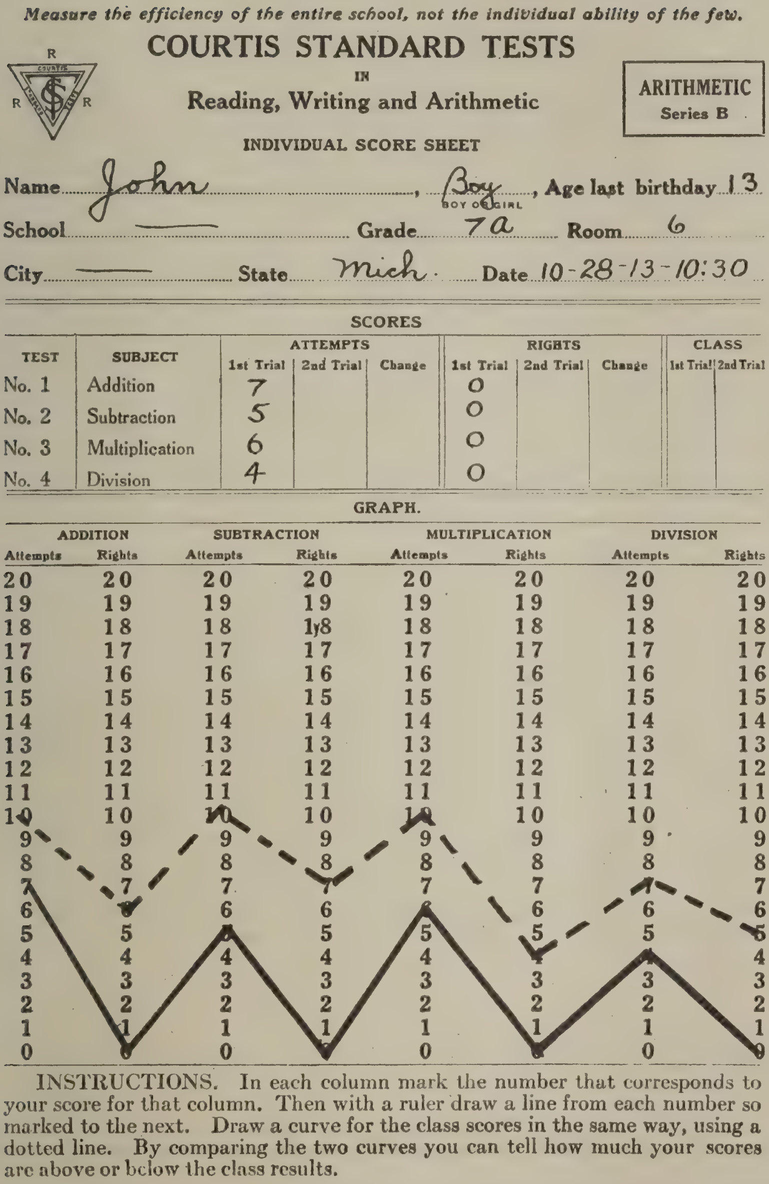
TEST	SUBJECT	ATTEMPTS			RIGHTS			CLASS	
		1st Trial	2nd Trial	Change	1st Trial	2nd Trial	Change	1st Trial	2nd Trial
No. 1	Addition	12			10				
No. 2	Subtraction	16			15				
No. 3	Multiplication	15			14				
No. 4	Division	15			13				

GRAPH.

ADDITION		SUBTRACTION		MULTIPLICATION		DIVISION	
Attempts	Rights	Attempts	Rights	Attempts	Rights	Attempts	Rights
20	20	20	20	20	20	20	20
19	19	19	19	19	19	19	19
18	18	18	18	18	18	18	18
17	17	17	17	17	17	17	17
16	16	16	16	16	16	16	16
15	15	15	15	15	15	15	15
14	14	14	14	14	14	14	14
13	13	13	13	13	13	13	13
12	12	12	12	12	12	12	12
11	11	11	11	11	11	11	11
10	10	10	10	10	10	10	10
9	9	9	9	9	9	9	9
8	8	8	8	8	8	8	8
7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

INSTRUCTIONS. In each column mark the number that corresponds to your score for that column. Then with a ruler draw a line from each number so marked to the next. Draw a curve for the class scores in the same way, using a dotted line. By comparing the two curves you can tell how much your scores are above or below the class results.

FIGURE 16.



Measure the efficiency of the entire school, not the individual ability of the few.

COURTIS STANDARD TESTS
IN
Reading, Writing and Arithmetic

ARITHMETIC
Series B

INDIVIDUAL SCORE SHEET

Name John, Boy (BOY OR GIRL), Age last birthday 13
School ——— Grade 7a Room 6
City ——— State Mich. Date 10-28-13-10:30

SCORES

TEST	SUBJECT	ATTEMPTS			RIGHTS			CLASS	
		1st Trial	2nd Trial	Change	1st Trial	2nd Trial	Change	1st Trial	2nd Trial
No. 1	Addition	7			0				
No. 2	Subtraction	5			0				
No. 3	Multiplication	6			0				
No. 4	Division	4			0				

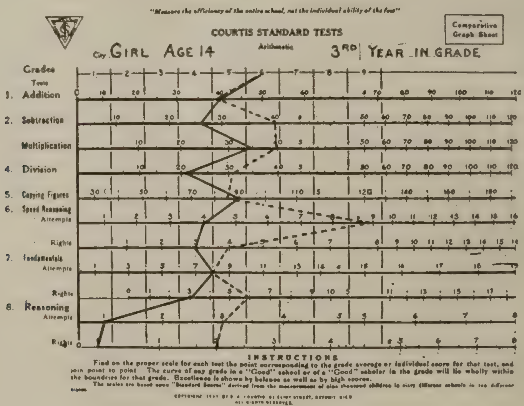
GRAPH.

ADDITION		SUBTRACTION		MULTIPLICATION		DIVISION	
Attempts	Rights	Attempts	Rights	Attempts	Rights	Attempts	Rights
20	20	20	20	20	20	20	20
19	19	19	19	19	19	19	19
18	18	18	18	18	18	18	18
17	17	17	17	17	17	17	17
16	16	16	16	16	16	16	16
15	15	15	15	15	15	15	15
14	14	14	14	14	14	14	14
13	13	13	13	13	13	13	13
12	12	12	12	12	12	12	12
11	11	11	11	11	11	11	11
10	10	10	10	10	10	10	10
9	9	9	9	9	9	9	9
8	8	8	8	8	8	8	8
7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

INSTRUCTIONS. In each column mark the number that corresponds to your score for that column. Then with a ruler draw a line from each number so marked to the next. Draw a curve for the class scores in the same way, using a dotted line. By comparing the two curves you can tell how much your scores are above or below the class results.

FIGURE 17.

none right. He is way below his class, and needs all the drill that he can get; but he has not yet learned to get even a single example right; he is quite unlikely to receive proper attention in any drills that may be given to his class. Any child who after *seven years of instruction* has failed to learn to do a single example of these simple types is educationally ill. A careful study of his peculiar symptoms and a proper adaptation of work to his ability and needs would, however, make his work productive. Have you ever thought of the moral issues involved? How long could *you* keep on trying work in which you repeatedly failed, in which you made no progress whatever through seven years? Every child has a natural right to have set before it a task within its reach, and if this is not done the effect of failure is sure to be disastrous. Fortunately, in this case, it is not necessary to guess what the effect of class drill is upon such a child. In Figure 18, for instance, are given the October and March records of one of these unfortunates. Note that the March record falls way behind the October record. The cause? It is her third year in the grade. If they keep her there long enough, she may end in the kindergarten. Definite aims, standard tests and educational diagnosis alone make it possible for the teacher to handle such cases intelligently.



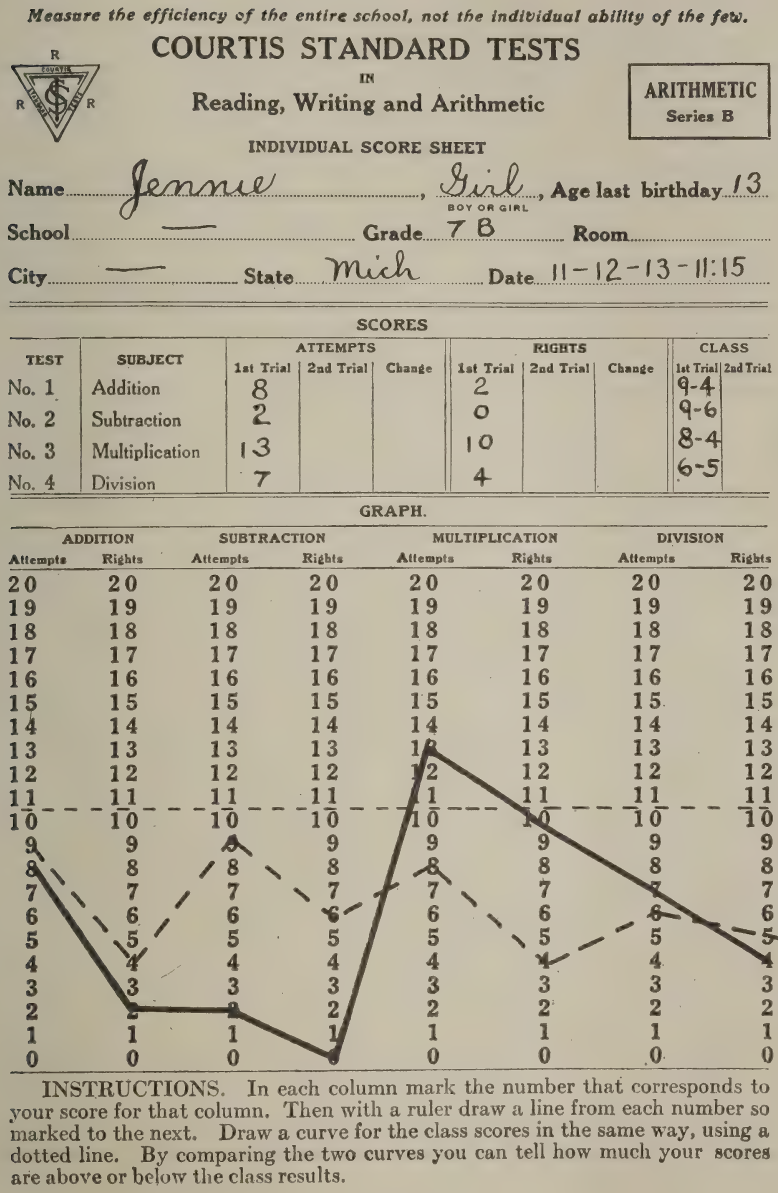
INSTRUCTIONS

Find on the proper scale for each test the point corresponding to the grade average or individual score for that test, and join point to point. The curve of any grade in a "Good" school or of a "Good" scholar in the grade will lie wholly within the boundries for that grade. Excellence is shown by balance as well as by high scores.

The scales are based upon "Standard Scores" derived from the measurement of nine thousand children in sixty different schools in ten different cities.

FIGURE 18.

Definite aims also make possible specialization of training. In Figure 19, for instance, notice that girl is low in subtraction, high in multiplication and nearly up to her class in the other



Measure the efficiency of the entire school, not the individual ability of the few.

COURTIS STANDARD TESTS
IN
Reading, Writing and Arithmetic

ARITHMETIC
Series B

INDIVIDUAL SCORE SHEET

Name Jennie, Girl (BOY OR GIRL), Age last birthday 13

School —— Grade 7 B Room

City —— State Mich Date 11-12-13-11:15

SCORES

TEST	SUBJECT	ATTEMPTS 1st Trial	ATTEMPTS 2nd Trial	ATTEMPTS Change	RIGHTS 1st Trial	RIGHTS 2nd Trial	RIGHTS Change	CLASS 1st Trial	CLASS 2nd Trial
No. 1	Addition	8			2			9-4	
No. 2	Subtraction	2			0			9-6	
No. 3	Multiplication	13			10			8-4	
No. 4	Division	7			4			6-5	

GRAPH.

ADDITION Attempts	ADDITION Rights	SUBTRACTION Attempts	SUBTRACTION Rights	MULTIPLICATION Attempts	MULTIPLICATION Rights	DIVISION Attempts	DIVISION Rights
20	20	20	20	20	20	20	20
19	19	19	19	19	19	19	19
18	18	18	18	18	18	18	18
17	17	17	17	17	17	17	17
16	16	16	16	16	16	16	16
15	15	15	15	15	15	15	15
14	14	14	14	14	14	14	14
13	13	13	13	13	13	13	13
12	12	12	12	12	12	12	12
11	11	11	11	11	11	11	11
10	10	10	10	10	10	10	10
9	9	9	9	9	9	9	9
8	8	8	8	8	8	8	8
7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

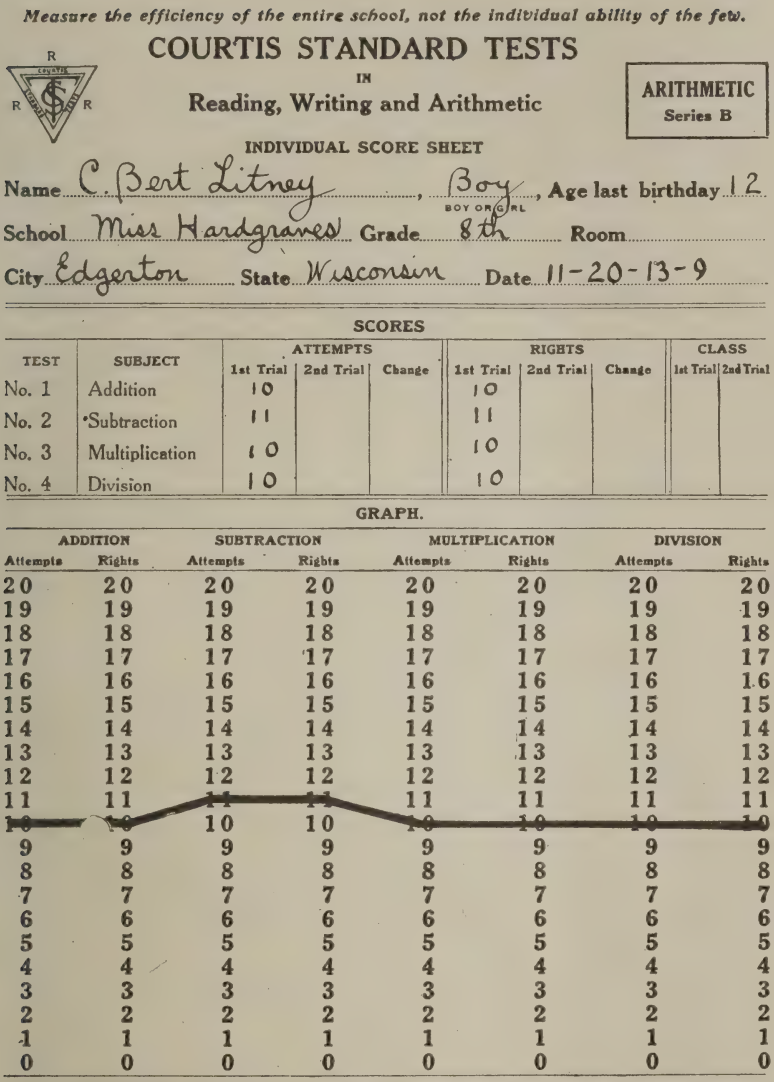
INSTRUCTIONS. In each column mark the number that corresponds to your score for that column. Then with a ruler draw a line from each number so marked to the next. Draw a curve for the class scores in the same way, using a dotted line. By comparing the two curves you can tell how much your scores are above or below the class results.

FIGURE 19.

two operations. Administrative methods must be devised whereby such a child can be excused from work in multiplication in which she excels and concentrate here attentions upon subtraction, in which she is weak. When these ideas shall have been put into general effect the product of her school work will resemble the remarkable record shown in Figure 20.

The product of school work will then be uniform, but please note most carefully that the uniformity is to be obtained by greater, not less, respect for the inherent differences of the native abilities of children and of their powers of growth.

This entirely inadequate discussion of the way in which education must be made efficient will be closed with an illustration of exactly what is meant by educational diagnosis and the evidence that proves that work along these lines will raise the efficiency of the school. Suppose that you have found a child whose work in addition is very much below grade and whose scores, in spite of class drills, show no change. Imagine, further, that before school some morning you have taken her alone for ten minutes of individual study; that you have asked her to add aloud the first example in Figure 15. and that she has started off bravely—9, 13, 17, 24—but, having reached 24, hesitates and then goes on—31, 40, 47; that on the second column in the same way she says—14, 19, 20, then hesitates a moment and continues—23, 26, 31, 38, and again hesitates before she says the 40. In other words, that at about every fourth addition with consistent regularity throughout all her adding work she has a period of hesitation, and that when her adding activity is resumed her results are often wrong. The symptom here is clearly defined. A hesitation at every fourth addition. What is the cause of the difficulty, and what is the remedy? The answer is shown in Figure 21. The scale at the left shows the number of additions per minute. The scale along the bottom shows the number of figures per column. This first chart, Y, is the writer's own record. For a single minute's work he adds quite uniformly at a rate of 70 additions per minute, whether the column is four figures long or twelve. This second individual, however, adds at a constant rate for columns one, two, three or four additions long, but for columns of six or eight figures her rate drops to one-half the first score. Now, it is difficult for anyone to concen-



Measure the efficiency of the entire school, not the individual ability of the few.

COURTIS STANDARD TESTS

IN

Reading, Writing and Arithmetic

ARITHMETIC
Series B

INDIVIDUAL SCORE SHEET

Name C. Bert Litney, Boy (BOY OR GIRL), Age last birthday 12

School Miss Hardgraves Grade 8th Room

City Edgerton State Wisconsin Date 11-20-13-9

SCORES

TEST	SUBJECT	ATTEMPTS			RIGHTS			CLASS	
		1st Trial	2nd Trial	Change	1st Trial	2nd Trial	Change	1st Trial	2nd Trial
No. 1	Addition	10			10				
No. 2	•Subtraction	11			11				
No. 3	Multiplication	10			10				
No. 4	Division	10			10				

GRAPH.

ADDITION		SUBTRACTION		MULTIPLICATION		DIVISION	
Attempts	Rights	Attempts	Rights	Attempts	Rights	Attempts	Rights
20	20	20	20	20	20	20	20
19	19	19	19	19	19	19	19
18	18	18	18	18	18	18	18
17	17	17	17	17	17	17	17
16	16	16	16	16	16	16	16
15	15	15	15	15	15	15	15
14	14	14	14	14	14	14	14
13	13	13	13	13	13	13	13
12	12	12	12	12	12	12	12
11	11	11	11	11	11	11	11
10	10	10	10	10	10	10	10
9	9	9	9	9	9	9	9
8	8	8	8	8	8	8	8
7	7	7	7	7	7	7	7
6	6	6	6	6	6	6	6
5	5	5	5	5	5	5	5
4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2
1	1	1	1	1	1	1	1
0	0	0	0	0	0	0	0

INSTRUCTIONS. In each column mark the number that corresponds to your score for that column. Then with a ruler draw a line from each number so marked to the next. Draw a curve for the class scores in the same way, using a dotted line. By comparing the two curves you can tell how much your scores are above or below the class results.

FIGURE 20.

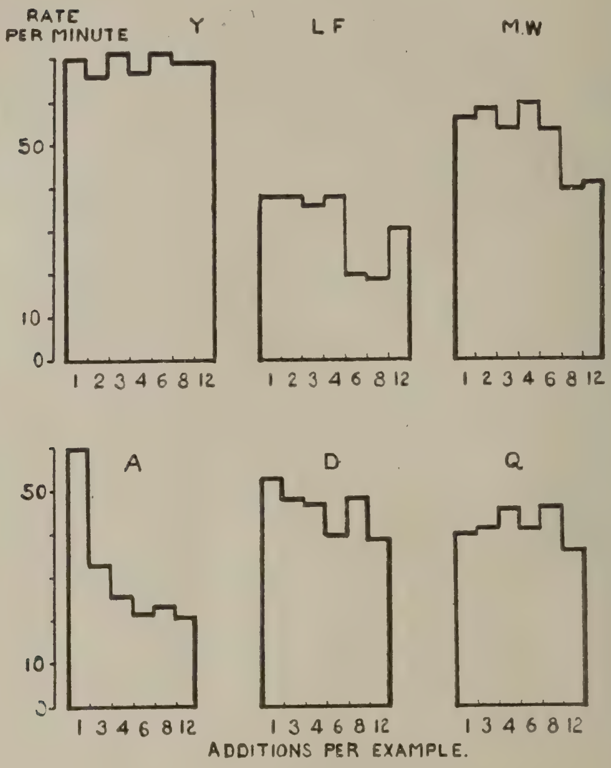


FIGURE 21.

trate attention on any single activity for any great length of time. All have moments when attention tends to waver. The writer's attention span is about six additions, but he has learned to bridge the spans and can carry on the adding continuously. Not so this individual, however. Her attention is limited to four additions, and she does not know how to bridge her spans. The remedy in such a case would be to give her practice in adding columns five or six additions long, so that with very slight extra effort she would be able to reach the top of the column successfully. This in turn should be followed by examples slightly longer, and so on until the bridging of the attention spans has been brought under control.

Unless one has tried it, it is impossible to realize what can be done by such work with individuals. As a slight illustration, in the next slide is given the results from the control experiments in a large school. The classes in the school were divided into two groups. One of these groups, known as the control group, went on with its regular work without change

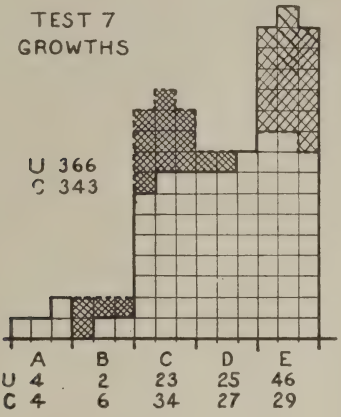


Figure 22.

of any kind. There were 343 children in this group. The children in the other group, however, were sent one at a time, as need arose, to what was known as an unassigned teacher; that is, a teacher who had no regular class and whose sole work during the twelve weeks of experiment was this diagnostic work with individual children. At the end of the practice period the tests were given again and the individual changes in scores computed. The letters A, B, C, D and E in the record stand for large loss, small loss, no change in score, small gain, large gain, respectively. Note that the number of children making a large gain has been raised from 29 per hundred in the control group to 46 per hundred in the group that went to the unassigned teacher—a gain of 58 per cent. Note, also, that this gain was mainly from the group of children who would otherwise have made either no gain or a small loss.

On the basis of these and other results the writer has no hesitation in predicting that in the very near future, by means of systematic educational diagnosis of the causes which prevent success of individuals, and by the application of proper remedies, it will be possible for an ordinary teacher to have 75 per cent. of her children growing in place of the conventional 30 per cent. The remaining 25 per cent. will be made up of defective and feeble-minded children, of those others who, through ill health, unfortunate home conditions or other factors beyond the school's control, are unable to grow, and of those complicated and extreme cases of peculiar mental development which will require the care and diagnosis of a specially-trained psychologist. But if standard tests, measurement and educational diagnosis shall in ten years have doubled the efficiency of our teachers, the movements for measurement in education will have fully justified the faith of its supporters.

Teachers' Marks and Marking Systems

Harold Ordway Rugg

University of Illinois

PERHAPS the most striking characteristic of the development of the theory and practice of education during the past two decades is a continued and diversified emphasis on the measurement of educational products. With the intensive study of devices for measuring school efficiency there has been a gradual awakening to the fact that teachers themselves have been measuring and evaluating school products, human productive efficiency, since the beginning of schools. Each has, consciously or unconsciously, set himself up as a designer of educational yard sticks, hewed or evolved his own "Scale" of marks in the subjects taught by him and applied it more or less rigorously to his pupils. The general outcome has been that we have had in the same system of schools, the same institution, school building or department as many standards of marking as there have been teachers. Uniformity has not been the chief characteristic of teachers' marks.

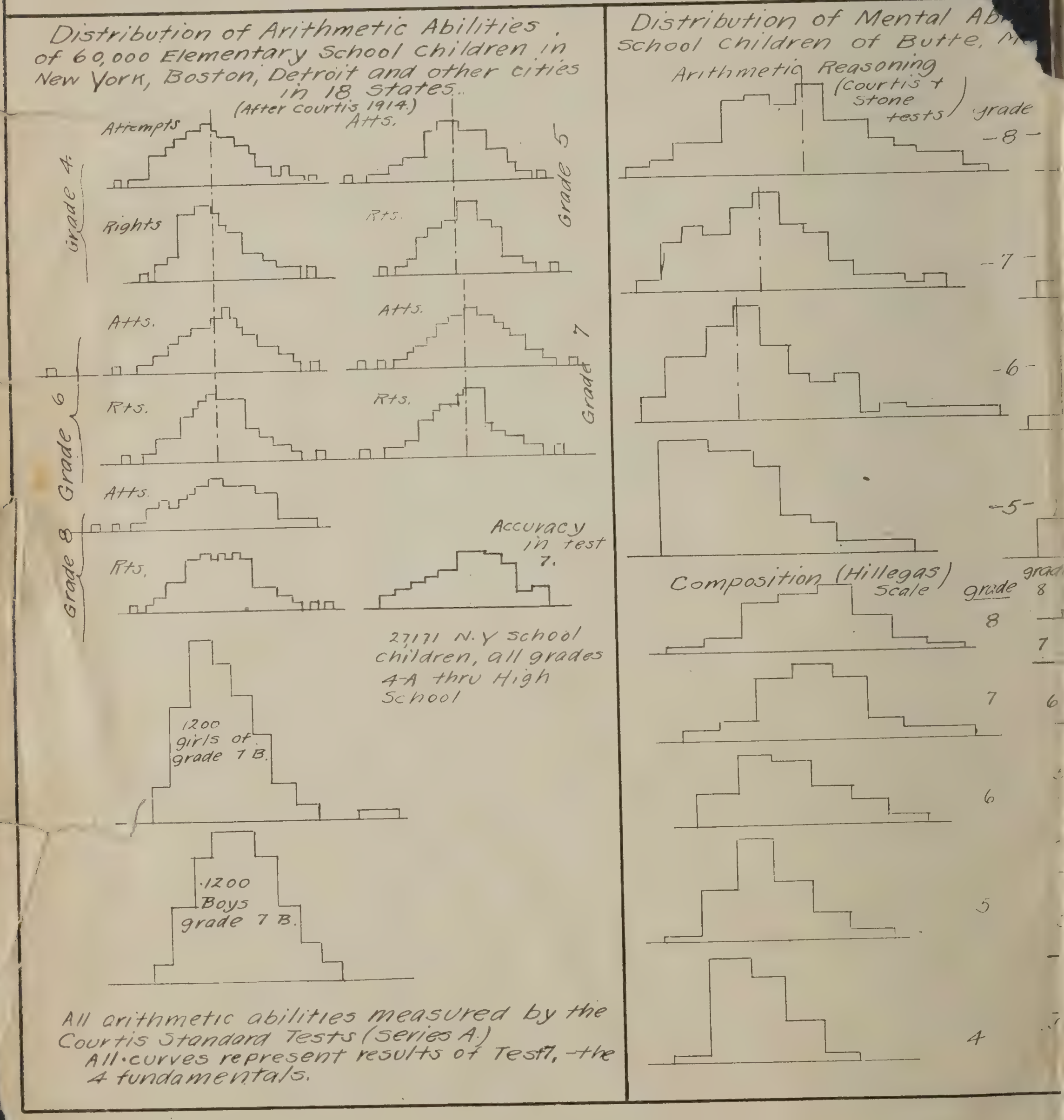
More recently it has been recognized by students of education that teachers' marks influence in a large way many phases of educational administration. It must be admitted, however, that school and college administrators generally have not shown an appreciation that the importance of the problem deserves; otherwise, the conditions pictured in this article would not exist. Clearly, a phase of our school machinery that largely controls promotions from grade to grade and school to school, admissions to school and college, the granting of degrees and honors, which is recognized as being an index of teaching efficiency, is the basis for election to membership in various honorary societies, is the principal basis for appointment to scholarships and fellowships, research and teaching positions in our colleges—clearly, administrative machinery that functions in so many phases of educational

Essential Features of Publ

Investigato	Date	Where	Referenc	Characterization of Discussion	What is Measured by Schools Marks?	Theoretical form of Distribution	Reasons for Assuming this form of Distribution	Effect of Elimination on Distribution of Mark	Proposed Scale of Mark No. Divisions	Symbols	Equivalent percent Grade	Percent of Grades in each Division		Method by which Prop Scale of Ma was Determ
Cattell, J. McK	1905	Columbia	Pop. Science Monthly Vol. 66. 1905: 367-378	Theoretic discussion of 1-need of standization; 2-theoretical assumed form of distribution, 3-credits.	"Ability" and "performance" are measured. Does not definitely distinguish between them. Grade should indicate the "rank" of various individuals in the group. The amount of the "Probable Error" of the grade should always be stated [Cattell gives first emphasis of theory of measurement by relative "position" in group]	Should follow "Normal" or probability curve. Curve of actual marks is Skewed	Actual distribution is skewed because of "Selection due to elimination during earlier years of school and college attendance.	A priori discussion. Recognizes "individuals differences". Does not use Pearsons theory but by empirical methods gets scheme approx'ting theory & practice.	5	A B C D F		10 20 40 20 10		Scale deter rather arbit (by inspecti Altho claim actual distr tion is skew Cattell offers "Nor distribution conforms t flat symm -cal distribu
Hall, W. S.	1906	Northwestern	Sch. Sci and Math. 1906. Vol 6 (501 510)	Aim: To offer "scientific" solution of marking problem. To reduce inequalities in tchr's marks.	Marks measure "pupil's development," What H. calls a "psychic function." (Practically amounts to "Accomplishment."	Normal or binomial curve of all "biologic data"	Hall's argument: All numerical data from observations, of either a functional or structural character, obey the law of distribution of biologic data. Rating of students is measurement of psychic function and yields numerical data. These data must obey law of distribution of biologic data		8	AA A BB B CC C D E		1 7 21 35 35 21 7 1 128 in group	1 5 17 27 27 17 5 1 100 "	Says "he d these perce from binor $(a+b)^7$ (Plot of these re gives wide tion from actual cur distributio
Meyer, M.	1908	University of Missouri	Science: Vol. 33, 1908-p 661.	Shows need of standardization of school marks. Proposes system to reduce inequalities.	Marks Measure combinations of "mental and moral abilities." The mark to be recorded should be the "rank" of all individuals in the group [Measurement by relative position]	Such combined abilities are distributed on the Normal Curve	"Impression" and a few experiments indicate a symmetrical distribution. Also says teaching should be adapted to the middle group		5	A B C D E		3 22 30 22 3		Refers to P bility Table Normal Curv togetdsstan between i on Scale. Es es dividing between gr rather arb -rily.
	1911		Science vol 28, 1911 p. 243.	Results from using revised form of above scheme 4 semesters at U. Mo.			Says Normal distribution has not been conclusively proven. In absence of proof M. prefers to accept it by analogy from distribution of biologic data.		5	E S M I F		4 21 50 18 7 Theor'l	4 21 52 16 7 Actual	
Foster, W T	1911	Columbia and Harvard	Chap XIII "Administration" College Curriculum.	Pictures present conditions of marking in colleges. Proposes scheme for standizing	"Complex abilities" are measured by school marks. [Importance of marks as basis of awarding honors, scholarships, degrees, admission to college, positions etc.	Mental Traits are distributed on "Normal" Curve	Refers to dist. of traits found by Thorndike, and to accepted opinion on subject. Claims actual distribution prove it, in case of marks. Offers no other proof, but claims "scientific grounds" for assumption	Maintains college men are selected group. For evidence refers to studies by Thorndike and Dearborn.	5	A B C D E		3 22 50 22 3 Normal	2 18 50 24 6 Skew.	Same ger procedure Meyer. (I (Inspecti method of normal the not take ac of Indivi Differen lem accu
Smith, A. G.	1911.	St. U. Iowa	J. Educ Psych. Vol. 2, 1911. 283-93	Shows marking condition of Iowa Proposes theoretical Scale	Mental Ability (or capacity) is measured. Definitely says marks do not measure "accomplishment" [Emphasizes importance of school marks - see Foster]	Normal Curve	Says (a priori) that college men are not selected group to such a degree as to prevent their marks from conforming to the normal frequency curve	Elimination does not function. College group is not specialized.	5	A B C D E		10 15 50 15 10		Refers to Pe solution of ual Differen lem Divide arbitrarily ing Group the midd Never at grade on p System
Steele, A. G	1911	Miami Univ	Pedagog. Sem'y XVIII. p 523	Suggests method of training teachers to mark uniformly	Mental ability is measured [Emphasis on the importance of marks see Smith and Foster]	"It is believed mental traits distribute on normal curve								

Rugg, H.O.	Cajori, F.	Gray, C.T.	Finkelstein, I.E	Dearborn, W F	Starch, D.		Star and E
1914	1914	1913	1913	1910	1913		1912
University of Illinois	Colorado College	U. Chicago.	Cornell University	U of Wisconsin.	U of Wisconsin		U of Wisc
① Proc. H. Sch confer. 1914 ② J. Educ. Psy. Jan. 1915	School Sci. + Math. 1914. Vol 14 (p. 283-93)	Educ'l. Psychol. Monograph No. 8	Educational Psychology Monograph No. 10.	U. of Wisconsin Bulletin No. 368	Science V 38-630-636		Schoo XXI, 2
1. Presents mark curves of Illinois Math teachers 2. Relative reliability of tchrs. and students marks using objective Scales	Application to student marks of K. Pearson's Solution of difference problem	Discusses variations in marks of 10 High Schools	1- To consider merits of diff systems. 2- theory underlying scientific design 3- Curves of 20348 marks	To picture condition of inequalities in teacher marking due to diff. in standards.	Consideration of marks as a Scale of measurements Determination of minimum size of marking unit + distribution		Measur ty of m ing larg mark s
	Marks measure "Ability." Does not define ability however	Teacher's estimate of pupil's ability Does not define ability	Marks measure Ability (native) only indirectly. Directly marks measure "accomplishment," which is resultant of native ability, preparation and zeal. Accomplishment is determined by ability x preparation and zeal, rather than + preparation and zeal	Both Ability and Attainment. Theoretically we should be measuring "Ability." Actually attainment complicates the thing marked. He does not distinguish definitely "between the two.			
	Normal frequency curve.	The curve of Error (Normal)	Native ability "probably normal. Accomplishment is "skewed"	Ability and attainment are both distributed on "Normal C.	Probability (normal) Curve		
	Many physical traits follow the law. A very few mental traits have been proven to do so. Reasons by analogy that mental traits will in general be distributed normally.	① Say psychologists have shown distribution is that of chance event. ② Refers to Foster's selection of 8969 Harvard marks as proof of actual distributions	① Curves of 20,348 Cornell marks are all skewed. (opinion of so many teachers is important) ② Assumes gifted pupil reaps benefit of "ability x effort" theory, thus skewing resultant curve to high end ③ Mark curves are skewed by establishment of passing and exemption grades	① Physical attributes do distribute Normally. ② Mental traits are believed to i.e. g. perception + memory according to Thorndike. Offers no other evidence. 3- Actual grades do conform to it. Cites Hall and his curves on 472 High school and University students and on 180 freshmen and Seniors	Gives none Refers to Dearborn for evidence		
				Says there is elim. between Elemen. + High Sch. Uses curves on 472 + 180 students to show none elsewhere.	Statistical study of effect of elimination 5000 Wisconsin marks Students eliminated are in general the poorest students. No effect of elimination on high students		
	5	5	5	5		9	
	A B C D E	Takes 5 quintiles of base line	A B C D E	A B C D F	A+ A- B+ B- C+ C- D+ D- F	A+ A- B+ B- C+ C- D+ D- F	
	Exc Sup. Med. Inf Poor		95-100 85-94 70-84 60-69 0-59	Exc. Good Fair Poor Failure.	Same as above	97-100 93-96 89-92 85-88 81-84 77-80 73-76 70-72 Below 70	
	7 24 38 24 7	7 20 42 21 7	3 21 45 19 12	2 23 50 23 2	4 10 20 24 22 11 4 2.5 3.5	3 7 16 23 23 16 5 3 4	
					14 44 33 6.5 2.5	Elementary Classes.	
	Uses Pearso ulae for fir are. diff be consecutive viduals in mal distri This is s consisten the assum made. Three mid groups co equal ra	Offers no for such a These obtained ing base Foster's grades i quintiles	5 division fits norm ributions Assume distribut 20,348 cor marks to c imately c Adopts pe marks in determine exemption ing + criti Divides "Av Superior g arbitrarily and 21%.	10 get pr tion in ea group, sa divides t of norma into 5 eq parts.	Distribu grades fo and Juni to be ske practical conforme this theore Distribu	Says he out elem distribu "normal. Compar. Cajori's r tained in ing Pears indicate extreme are too la	

Plate II. — The Distributio



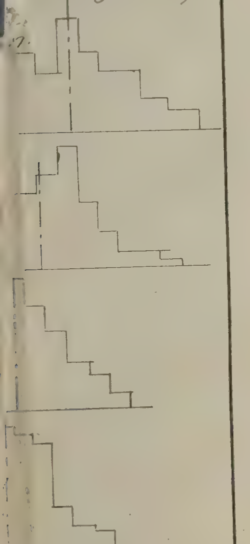
Distribution of Arithmetic Abilities of 60,000 Elementary School children in New York, Boston, Detroit and other cities in 18 states. (After Courtis 1914.)

Distribution of Mental Ab
School children of Butte, M

All arithmetic abilities measured by the Courtis Standard Tests (Series A.)
All curves represent results of Test7, —the 4 fundamentals.

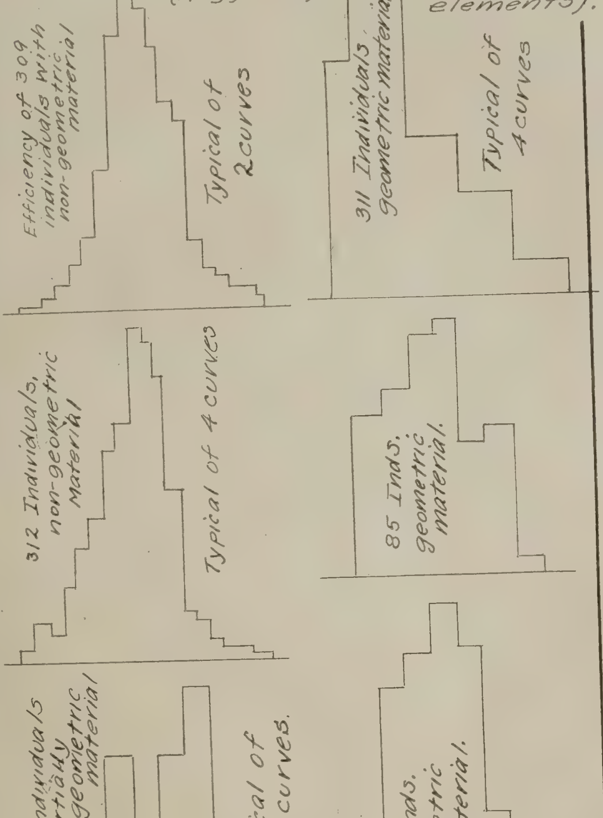
Mental Abilities. — H.O.Rugg-1914.

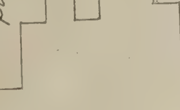
Elementary Survey 1914)



horndike Scales)

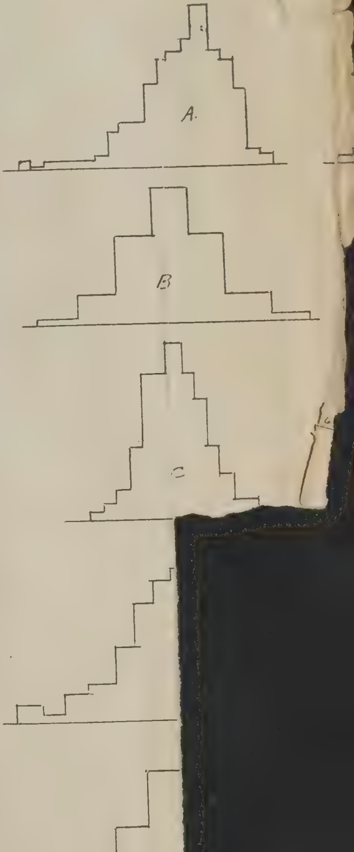
Distribution of Ability of College students in visual imagery (manipulation of spatial elements). (Rugg 1914).





Distribution of 71 College students' native music ability.

Samples of the Forms
tion found in Mental
(After Thorndike, vol. 3 of

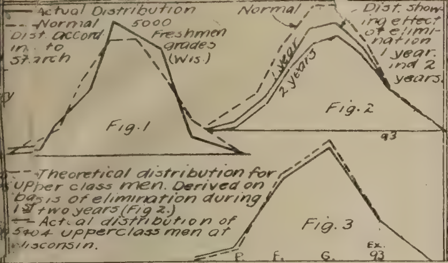


A: Reaction ti
B: Memory of
C. Effcy in mar
D. Effcy in giving
E. Accuracy in
F. Effcy. in mar
G. Effcy. 12 yr. ol
H. Memory of

[illegible] more [illegible] than [illegible] of small sch[illegible]
[illegible] ore leniently than [illegible]ge schools

[illegible] closer than 2.5 to [illegible] point

y be [illegible]
jective [illegible]
adoption of [illegible]
grading and [illegible]
of grading in [illegible]
[For comparison [illegible]
out use of Ob[illegible]



Starch and Elliott found m. var among schools to be 5.4 %.

10 Tchrs. in English dept. (Wis) each graded same 10 papers. Mean variation 5.3 %. (Coeff. of var. .07) same as carpenters measuring rods (.06)

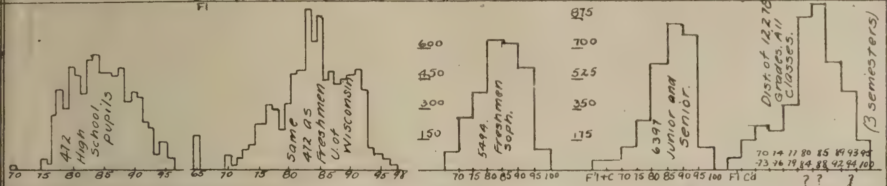
9 Tchrs marked same paper twice after varying intervals (e.g. 2 wks, 6 mos, 9 mos, 1 yr, 2 yrs). M. var. of own grades = 2.2 %.

Weighted each grade by its deviation from gen. Ave of all grades. M.v now = 4.3

Weighted each grade of a tchr by its dev. from ave. of 2 grades given by that tchr on same paper. M.v = 1.75.

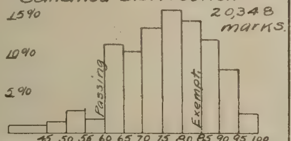
75 % of pschological measurements must be within smallest unit. Since a range 2¾ x mean var. includes 75 % of the estimates, therefore the smallest interval into which tchrs can grade is 2¾ x 1.75 = 4.8 %.

Ingrading sa[illegible]
a Total Prob. E[illegible]
is caused by [illegible]
to distinguish [illegible]
merit (2.2 %), 2[illegible]
sis given to di[illegible]
paper (2.1 %), 3[illegible]
among teacher[illegible]
among school[illegible]
tically nothin[illegible]
tion



Exhibits good[illegible]
comparing rel[illegible]
pils in schools[illegible]
Gives many [illegible]
variations in [illegible]
grammar, hig[illegible]
students.
Preponderan[illegible]
are skewed [illegible]
in discussing [illegible]
"form" of distr[illegible]

Combined Distribution.



Curves for separate Colleges, courses, and classes are typified by this curve. Practically no curves are approximately "normal."

An a priori method of assuming there must be only 5 steps in scale, 4 above the passing grade. Says Starch's statistics confirm him.

Teachers var[illegible]
same pupils i[illegible]
The same su[illegible]
ent groups of [illegible]
year of college[illegible]
-ing, liberal art[illegible]
totally unlik[illegible]
marks.
Curves of se[illegible]
often multi-[illegible]
"peaks."
Periodic publi[illegible]
to teachers gi[illegible]
tution all shou[illegible]
form to a 5 d[illegible]
ed distributi[illegible]

1 Gives 9 general curves of grades (several thousand) from 2 large Chicago H. Schs. and 8 Indiana H. Schools 2 are fairly symmetrical, the remaining 8 very erratic and badly skewed
2. Gives 14 curves for English grades and 14 for History, Language and Science. Of the 28, 4 are fairly symmetrical, the remainder being very erratic and badly skewed.

Does not publish curves. Describes the mark curves of 19 teachers, in 3 Colorado High Schools. 1487 grades. All are decidedly skewed to high percentile end of curve. Peaks or critical points occur at 70 (passing grade) and 85 (exemption)

To turn Cajori's unit distances into percentile grade, fix (arbitrarily) the upper limit of the "Superior" group (e.g. 90 or 95%) and lower limit of Inferior group (e.g. 70%). With this percentile range for 3 middle groups compute values of various unit dist's.

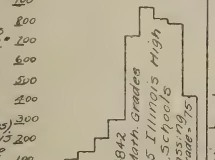
(After Cajori. 1914.) For Classes of 20 or 30

Distance from Median, of Students as "Ranked."

For Class of 30	Unit Dist.	2.1 1.6	1.4 1.2 1.0 .9 .8 .7 .6	.5 .4 .3 .2 .1 .04 -.04 -.1 -.2 -.3 -.4 -.5	-.6 -.7 -.8 -.9 -1.0 -1.2 -1.4	-1.6 -2.1
	Rank	1 2	3 4 5 6 7 8 9	10 11 12 13 14 15 16 17 18 19 20 21	22 23 24 25 26 27 28	29 30
For Class of 20	Unit Dist.	1.9	1.4 1.1 .9 .8 .6	.5 .3 .2 .06 -.06 -.2 -.3 -.5	-.6 -.8 -.9 -1.1 -1.4	-1.9
	Rank	1	2 3 4 5 6	7 8 9 10 11 12 13 14	15 16 17 18 19	20
		Excel't	Superior	Medium	Inferior	Poor

To be consistent with assumption[illegible] to normal distribution, one must [illegible]tribute marks by (a) ranking pupils [illegible] order of merit (b) transforming "ra[illegible]" into percentile or letter grades by computing distance of each pupil from middle most pupil (median). [illegible]tance will depend on size of clas[illegible] Cajori's table of unit distances for various sizes of class may be tur[illegible]ed into percentile grades as illust[illegible]ted in table. Range in percent cover[illegible] by 3 middle gps. may be set by teacher[illegible]

① Curve given is typical of 100 separate class or course curves. No math. class or course curve "is approximately "Normal." Advanced courses are skewed to the high end of scale even more than elementary courses
② Separate curves of 200 courses (14,000 grades) Coll. of Eng'g, U. of Illinois year 1912-13, give 1 curve approx. normal, 7 symmetrical with "long tail," remainder are skewed.



Relative Reliability of grading Free Hand Lettering, with and without an Objective Scale.

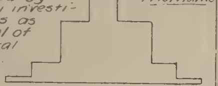
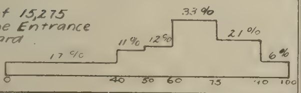
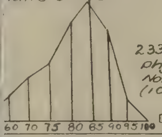
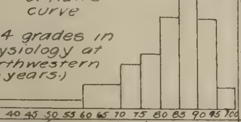
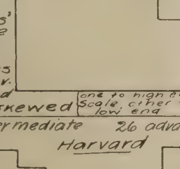
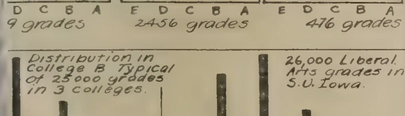
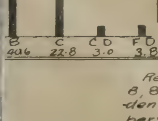
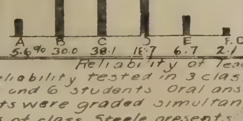
20 samples student lettering graded (in percent) by: 7 instructors before and after using "Rugg Scale for Measuring Lettering," by 38 students trained in use of Scale, by 23 Students trained in use of scale but grading without it, by 13 students trained in lettering but never having seen the Scale

Mean Variation of all grades, using Scale, Inst. = 5.31%, Students = 5.92%. Samples of any quality can be graded equally well using the Scale grading without the Scale (Instr. and students) have M.V twice and three times as large (with samples of quality below 75%) as grading with Scale. (15% vs 5%)

Samples above 85 % can be grad[illegible]ed equally well with and withou[illegible] the Scale. Students trained in us[illegible] of Scale, grade samples above 60 % quality, (without the aid of the Scale) with the same M. var., as others using the Scale.
Students trained in lettering not having seen the Scale, have M. var. in grading twice as large as those using the Scale.

d Discussions of Marking Systems

99 - 1914.

a Concerning Teachers Actual Marks. Number and kind of: Schools, departments, courses, dents and grades Typical grade curves, oretical (dotted); Actual (full lines).	Factors Affecting the Reliability and Distribution. Differences in Marking due to differences in: in School Standard	in depart-ment Standard	in ability to measure School credit among	teach-ers	due to change in tchrs Stand'd.	Determination of the minimum size of the marking unit	Methods of Training Teachers to Mark	Pertinent Discussion Not included under other heads.
Distribution of memory span for 123 women students Thorndike Quoted by many investigators as typical of mental traits.  tribution of 15,275 des of College Entrance nination Board 4 						Uses Probable Error as determiner of unit "Estimated from a few experiments" that P.E. in middle of Scale is 10 units Hence no grading should be closer than 10 units		College credits should be given in proportion to the quality of the work done "Credit for Quality." College tuition might well be charged in inverse proportion to the quality of work done
Hall's Curve  Finkelstein's revision of Hall's curve 2334 grades in physiology at Northwestern (10 years.) 								Actual curves o teachers' marks are skewed to the high end of the range because: (a) teachers marks have great inequalities (b) Students may be dishonest(!
00 grades at U. of Mo. (5 years) given by 40 fessors in all subjects. Accepting actual des as measures of relative ability, class were grouped in 3 groups, "Superior," "Me- n" and "Inferior" and al grades tabulated. , etc. Found that se of Medium ability ally received A's and Found very wide ability between ects and teachers.								Each institution should have a stan -ard System of marking and all instructors should be required to approximately conform to it There is great variability in the way teachers mark the Same students
show that teachers' e distributions are what the teachers h them to be, M. s curves of grades same class receiv. on hard exam. and easy exam. Both skewed one to high end of Scale, other to low end Distribution of native ability in music of 71 students. 							Periodic public of tchrs mark curves. All teachers curves must approximately conform to Standard established in the institution.	Four semesters use of uniform system in Missouri, results in curves of distribution that ver closely approximate assumed theoretical curve. Supports Ca ell's th number of coll ed should be i quality of wor
lementary 22 intermediate 26 advanced courses Harvard  9 grades 2456 grades 476 grades							Periodic publicity of tchrs marks. All must approximately conform to institution's Standards. Eccentricities must be justified	Practically a have adopted ing system 6 in range Frac tems has a "pe a scientific ba Marks given in Harvard Me Schools indic ity in teach
Distribution in College B Typical of 25000 grades in 3 colleges.  26,000 Liberal Arts grades in S.U. Iowa. 								
Reliability of Teachers' Marks. Reliability tested in 3 classes of education students, 8, 8 and 6 students Oral answers given by various students were graded simultaneously by remaining members of class Steele presents tables of results of such marking, giving average grade, mean and weighted deviations of marks from average, etc. Range of marks 76-88.9% given by 8 markers, 72.3-95.3% given on each marker. Ave. Dev. of marks [illegible] from 2.5% to 8.1%.							Tchrs should be trained to mark in tchrs meetings, institutes etc, by some such method Marks of unruly tchrs should be "calibrated" before being recorded.	Teachers vary the same ma Therefore t ly interpret t teachers Teachers shou tested and tr The average judges given may be regar mark
High School Tchrs. of No. Cent. Ass'n. [illegible] 2 student answer examination ers in English, 128 mark one Geometry paper and 114 mark one History r (Passing Grades of schools 70, 75, 80 and 90.) Found wide variation subjects, Probable Error in English, 4.5, in Geometry 7.5, in History 6% of marks were more than 4% ap [illegible] and distribution at identical for all subjects.... 2. Sim [illegible] in marking are departments [illegible] students [illegible] in no teach-						Probable Error of teachers' marks determines minimum unit [illegible] r		By comparing by a teacher of it, with the g teachers infer promotion an largely de subje ma

activity as this should be designed and operated on sound principles, obtained, if necessary, through careful research and detailed experimentation.

It is the aim of this paper, first, to contribute in some way to the organization of a rapidly multiplying educational literature by supplying students of education and school administrators with an organized and yet sufficiently detailed guide to the literature of "marking systems"; second, to offer new data pertinent to the problem; third, to suggest ways and means by which the school or college administrator may use the data now at hand for the solution of his own problems relating to marking systems.

THE ESSENTIAL FEATURES OF THE PUBLISHED DISCUSSIONS OF MARKING SYSTEMS.

During the past ten years some thirty-eight published discussions have appeared bearing on this question. Thirteen of these have offered material of definite interest to the study of the problem of marks. The better to study the status of a priori and statistical opinion on this question, the writer presents herewith, on Plate 1, what he has regarded as the essential features of each of these discussions. For the reading of the papers, interpretation and organization of the material, design of the method and lettering of the table he is himself responsible. Such a mass of data, both in the interpretation, organization and transcription of the material, makes the chance of occasional error large. As the work has been done with unusual care and checked many times, it is hoped that errors have been eliminated. It is believed that the fundamental points made by each investigator have been included, and that the student of marking systems may safely use the table as a guide to his reading in this field. Several discussions of marks that did not offer definite scales or statistics of actual teacher marks or did not relate to the practical problems of schoolmen are not included in the table. Complete references and brief characterizations of the papers will be found appended to the bibliography.

By reference to our detail table and our summarized discussions we shall search for the answers to many pertinent questions concerning marking systems. We may list them as including at least the following:

1. What is measured by school marks?
2. How is the "thing" measured, distributed in a representative population?
3. Should a theoretical form of distribution be assumed? If so, what should this form be? What are the reasons for assuming this form?
4. What factors affect the form of the distribution (selective elimination)?
5. How do teachers' marks actually distribute?
6. What "Scales" of marks have been proposed? By what methods have they been designed?
7. How does the actual status of marking fit the various theoretical scales?
8. What has been the result of putting into operation the proposed scales?
9. What do we actually know about the reliability of teachers' marks?
10. What are the factors which affect reliability?
11. What should be the minimum size of the marking unit? How can such be determined?
12. Does the use of such objective Scales as we now have at hand increase the efficiency of teacher marking?
13. How can teachers' efficiency in marking be increased?
14. What can school or college administrators do about it?

1. WHAT IS MEASURED BY SCHOOL MARKS?

A survey of educational literature reveals the fact that the recent development of educational method has been almost purely quantitative—qualitative analysis of mental processes is almost unknown, and practically always reveals itself in a priori garments. We are not finding it difficult to answer the various questions of How many? How large? What is the range of this? The average of that? The distribution of this? But is extremely difficult to tell How did this come about? What is the psychic cause of that? What are the constituent elements in this process? How do they act? etc. So it is with this problem of school marks. A definite qualitative analysis of the psychic basis of teachers' marks is called for, and thus far we have little scientific material at our command with which to carry on the analysis. Our data are confessedly a priori in character, and consist of the opinions (largely undefended) of investigators in this field. Let us summarize the situation:

The "thing" generally measured by school marks may be pigeon-holed entirely or in part under one or more of three heads: 1—inherited or "original" ability or capacity; 2—general accomplishment, a term intended to indicate the resultant effect on native capacity of training in the particular studies pursued; 3—specific performance, *i. e.,* the results of examinations, working of problems, writing of papers, making of reports, drawings, etc.

Study of Plate 1 reveals no general agreement among educationists or psychologists as to what is measured by school marks, not even an accepted terminology underlying the discussion of the question. We note a tendency to generalize vaguely of "ability" and "mental abilities," attainment, accomplishment, performance, psychic function, etc., without definitely restricting the range of function included by them. In practically all cases we find a use of the term "ability" most commonly undefined and not accurately delimited, and an occasional recognition of the fact (as with Meyer and Foster) that the thing marked is a combination or complex of mental and "moral" abilities. Finkelstein (11), Hall (2) and Dearborn (10) call attention to the fact that marks should *theoretically* be an index of ability, but that they are actually complicated by the effect of training in the form of pupil's "development," "attainment" or "accomplishment."

There seems to be a general tendency to regard ability and capacity as synonymous, the native element being thus stressed. But there seems also clear evidence of a tendency to avoid the whole question, important as it is. We surely need an agreement as to what we are measuring by school marks if the giving of them is ever to be made scientific. For one teacher to be trying to measure a pupil's native ability, another his development in her class, another his moral qualifications, another his attitude toward the work of the course, another his interest and effort, is an indication of a situation that does not spell rapid advance in educational standardization.

We have said that there has been little or no attempt to make definite qualitative analyses of those "complex mental and moral abilities" that teachers' marks are supposed to measure, the application of which one can make to the school administrator's problem. As Sechrist (24) has well pointed out in the most recent paper on marking, quantitative devices for measuring progress will contribute nothing unless they are founded on specific qualitative analyses of the constituent elements composing the total "ability" they are supposed to measure. "Obedience to a mathematical formula (in itself) can avail nothing. A scale of undefined degrees of excellence in composition, made up of the average judgment of thousands, an average whose constituents are unknown and unknowable, ignores the actual conditions of the teaching process. The question is * * * how is a judgment of a best derived, what are its constituent elements?" A similar emphasis on the qualitative and analytical aspect of our problem in educational standards comes from W. Brown (16) of Kings College, London, England, in articles describing a system of "differential marking" (16). Brown argues for this same analysis of the "general" mental abilities into the deeper lying constituent processes or traits, *e. g.*, geometrical ability may be made up of various elemental abilities which teachers may mark under such heads as memory of definitions, memory of principles, memory of rules, power of applying principles, accuracy in construction, etc.

To sum up: The thought of specialists on the question of what is measured by school marks indicates a fairly general implied agreement that teachers' marks measure native ability or capacity only very indirectly, and that directly they measure complex or "blanket" abilities, accomplishment, attainment or development, all these terms evidently denoting the same resultant effect upon native ability of training in the particular studies in question. The resultant efficiency or present ability is believed to be specifically measured through the product, the performance of the pupil in question. Progress beyond this status must be conditioned by an intensive qualitative study of this phase of our problem.

The term ability or abilities will be used throughout this study to denote actual productive efficiency as represented by the performance of the pupil.

2. THE DISTRIBUTION OF ABILITIES AMONG THE SCHOOL POPULATION.

The design of any efficient scale of marks for use in a school system rests upon the determination of 1—the form of the true distribution of mental abilities in question as found in any representative population; 2—the form of the actual distribution of teachers' marks which have been regarded as actual indices of the mental abilities in question. Let us begin by summing up the data on the first point. They are found in two sources, 1—the opinions of the specialists; 2—the actual distribution of mental abilities when measured by such standardized objective scales as we now have at command.

The position of the former is easily epitomized: of 11 investigators discussing the question, 10 assume that mental ability in any random selection of the school population should be distributed in accordance with the frequency curve, known variously as the Laplace-Gaussian curve; the normal frequency curve, "normal" curve, the binominal curve, the probability curve or the curve of error. This curve reproduced on Plate 2 is a definite curve of equation, $y = y_0\, e \frac{-X^2}{2(S.D.)^2}$ where S.D. is the standard deviation and e is base of the Naperian system of logarithms. Much of the scientific importance of this curve lies in the fact that a large part of our mathematical statistics is built up around it, and that many biological functions, stature, cephalic index, length of cubit, etc., have been found to actually distribute in conformance to it.

Why this assumption that mental abilities also conform to the normal frequency curve? Primarily, through argument by analogy from the distribution of biologic data; secondarily, through a claim that those mental traits which have been measured actually do distribute in close conformance to the normal curve. (Some add a third reason, namely, that the marks of teachers actually distribute on the normal curve, and therefore mental ability is distributed in that way! We shall inquire into the accuracy of this statement and the validity of the argument in a later section.) Those who cite cases on the distribution of mental traits have each referred to Thorndike's measurement of memory span and perception on 123 women students and on third grade pupils, the distribution of which does prove to be closely normal. As to the first argument raised, reasoning by analogy can hardly be said to aid in scientific solution of the problem. Especially does this prove to be true in this case, for more complete evidence on the second point raises serious doubt as to the validity of generalizations made from one or two of Thorndike's "Samples of the Forms of Distribution Found in Mental Traits" (Ed. Psych., Vol. III, p. 325).

Because of the meagerness of the data previously cited on this point, the writer has collected such data concerning the distribution of those abilities that have been measured by the objective scales and standards that we now have at hand. The curves plotted from these data are reproduced in reduced form on Plate 2, the legends of which are sufficiently detailed to describe each curve. (The writer wishes to note in this connection, first, his recognition of the possibility of roughness of measuring power of some of the scales now in use. They are used here because they are the best we have; second, that the list of mental functions described here is not complete enough to make our conclusions absolute and general for all mental functions. More detailed and conclusive data concerning the distribution of mental ability will be made the basis of a later report. An excellent qualitative analysis of the factors entering the problem of distribution of ability will be found in Chapter XIV of Thorndike's Educational Psychology, Vol. III.)

The distributions of Plate 2 represent the abilities of over 75,000 children and adults in some twenty mental functions, measured by the most accurate quantitative methods that educational specialists have yet been able to devise. Let us draw together the facts concerning them in summary form:

Arithmetical abilities. Sixteen groups represented; ability in the four fundamentals and arithmetical reasoning; 70,000 children. Of the eight Butte curves, none approach the normal curve, 2 are fairly symmetrical; the remaining 6 are skewed generally to the high end of the ability range, but occasionally to the low end. Of the thirteen Courtis curves (60,000 children in 18 States), 3 fit the normal curve rather closely, 3 more may be denoted as symmetrical, 5 are plainly skewed to the high end of the range and 2 are skewed to the low end of the range.

Composition. Five groups represented. Of the five curves of Butte children, 1, that for the seventh grade, is fairly normal (not quite so because of a long ''tail'' at the upper end); the remaining 4 are all skewed, 1 to the high end and 3 to the low end.

Penmanship. Seven grades of Butte children. No normal curves. Curve for grade 3 is fairly symmetrical. Remaining 6 curves are very erratic, almost too erratic for classification, and are skewed in both directions.

Manipulation of spatial elements (visual imagery). Twenty curves, representing ability of two groups of college students in manipulation of various types of visual material, geometric and non-geometric. Two curves out of twenty approximate the normal curve, but do not fit it exactly; 4 are fairly symmetrical; 14 are decidedly skewed, 3 of them very badly to the low end of the range, the remaining 11 to the high end.

Memory, perception, and the like from Thorndike's curves. Two curves from Thorndike, those for 123 women students in memory and for third grade pupils in accuracy and rapidity of perception may be classed as fitting the normal curve; that of memory of related words for third grade girls is not normal as assumed by various investigators, but is slightly skewed to the right. The remaining curves must be classed as skewed to the high end of the range.

Native ability in music. Curve given by Meyer (3 and 4). Method of measuring not explained. Curve is very badly skewed to the low end of ability range.

From the above detailed examination of the data at hand we may now make the following conclusions:

1. The distributions of mental abilities when measured by such objective scales as we now have may not be said to closely fit the normal frequency curve. Most of them may be denoted as skewed—the peaks of the curves tending to lie above the mode of the normal curve plotted on the same base. There is evident a tendency (which more refined measures of ability might make more pronounced) for these curves to be symmetrical, *i. e.,* they generally show rather a large proportion of the abilities clustering around the mean ability of the group, with increasingly smaller numbers as one moves to either extreme end of the range. The curves are quite often multimodal (having more than one peak), and many present long tails.

2. Examination of such ability curves as we now have for study makes it seem quite possible that certain mental abilities, rather than distributing on the normal frequency curve, may in reality distribute in accordance with others of Pearson's Type Frequency curves. We clearly need statistical investigations of these ability curves, with a view to determining their closeness of fit to such type curves as statisticians have placed at our command.

3. THE EFFECT OF SELECTIVE ELIMINATION ON THE FORM OF THE DISTRIBUTION OF MENTAL ABILITY.

A factor entering into the solution of the problem of the distribution of mental ability in secondary schools and colleges is that of the elimination of certain portions of the advanced classes. Various conflicting opinions have been expressed on this point by the specialists Cattell (1), Dearborn (10), Foster (5), Finkelstein (11) and Starch (9), believing that elimination functions so as to affect the shape of the distribution. The three former a priori recognize its existence, but do not make allowance for its effect in designing their theoretical scales of marks. Dearborn (10) presents the grade curves of 472 pupils in the high school and in the freshman year of college (Wisconsin), showing a closely similar form of distribution.

He claims that there will be no elimination of selected classes between the high school and college, although there is some between the elementary and high school grades. Therefore, the college distribution should be normal! Finkelstein definitely argues for the presence and effectiveness of elimination of selected classes in skewing the curves of accomplishment to the high end of the range. A. G. Smith, on the other hand, says (also a priori) that there is no evidence of selective elimination among college groups, and that the abilities distribute on the normal curve.

The only attempt to study this question statistically is that of Starch (9). Starch studied the college careers of 5000 Wisconsin under-graduates through the records of elimination and marks. Figure 3 of Starch's curves (Plate 1) indicates pictorially the results of the study. It shows that, while the group of students eliminated during the first two years includes some from each of the various grades of ability, the larger part of it does come from the lower grades of ability. The curves indicate that practically none of the "excellent" students drop out of college during the first two years, and none do who rank above 93 per cent. Starch has computed from his elimination records what the distribution of Wisconsin upper classmen ought to be, and checked it in a striking way by showing it to be almost identical with the actual distribution of 5404 upper classmen, both being slightly skewed to the high end of the range.

We may sum up the situation by saying that what evidence we have on the question of the selective functioning of elimination, points to an elimination of the pupils in college from all grades of ability except the highest, with a larger proportion from the lower grade. There is strong reason to believe that a similar and possibly even greater selective effect exists through elimination of certain types of student mind in the gaps between the later grammar grades and the early high school grades. The results of the study of college conditions points out the need of similar studies conducted on the earlier stages of education.

4. THE FORM OF DISTRIBUTION OF TEACHERS' ACTUAL MARKS.

We have said that the design of an efficient quantitative scale of marks for use in a school or system of schools not only rests upon a determination of the true distribution of mental abilities in the school population at large, but also upon the actual distribution of teachers' marks. Previous investigations in this field have quite generally restricted their presentation of actual mark curves to those typifying local conditions in their own institutions. We present on Plate 1 typical distribution curves covering more than 171,400 teachers' marks, given in seven colleges and universities and thirty-nine high schools (distributed over thirteen States) by several thousand teachers to children and adults from all ages in the school population. We believe these data completely typify the actual conditions of teacher marking throughout the country, and that conclusions made from them will hold for teachers at large.

Having taken up the curves of Plate 1 in the above detailed form, let us state the chief characteristics of teachers' mark curves without further discussion:

1. Regardless of subjects of study, the typical distribution of teachers' marks results in a form or curve which may be described as "skewed to the high end of the percentile scale," *i. e.,* the peaks of the curve will lie considerably above the mean of the base line upon which the curve is plotted and above the theoretic mean of the normal frequency curve plotted on that base.

2. Less than 10 per cent. of the several hundred mark curves, representing an aggregate of over 171,400 marks, may be described as perfectly symmetrical, and not more than two or three in a hundred of all those examined have been found to be approximately "normal."

3. The mark curves of students of advanced college classes and students of advanced high school classes are skewed much farther to the high end of the percentile scale than are the marks curves of students in corresponding elementary classes.

4. There is evidence (see Starch, 9) that a very influential cause of the constant skewing of mark curves to the high end

of the range is the established effect of selective elimination of the poorer students in advanced classes and schools.

5. There is evidence that another potent cause of the skewing is the presence of institutional "critical points" in the

TABLE 1.

Summarized Data Concerning the Distribution of Teachers' Marks.

Investigator.	Number and Kind of Marks.	Description of the Mark Curves.
Cattell.	15,275 marks of College Entr. Exam. Board (1904).	Decidedly skewed to high end.
Hall.	2334 physiology marks at Northwestern University.	Considerably skewed to high end.
Meyer.	Over 21,000 Univ. Mo. marks (40 professors). 5 years. All of Univ. Mo. marks under 4 semesters of new "normal" system.	Decidedly skewed. Approximately normal.
Foster.	8969 elementary Harvard marks, 21 courses. 2456 intermediate Harvard marks, 22 courses. 476 advanced Harvard marks, 26 courses.	Perfectly symmetrical, fairly normal. Decidedly skewed to high end. Very badly skewed to high end.
Smith.	25,000 Univ. Iowa marks. 26,000 Liberal Arts college marks (S. U. Iowa).	Very decidedly skewed to high end. Decidedly skewed to high end.
Starch.	5000 Wisconsin freshmen and sophomores. 5404 Wisconsin upper classmen.	Fairly symmetrical. Only slightly skewed. On the whole, slightly skewed to high end.

TABLE 1.—(Continued.)

Investigator.	Number and Kind of Marks.	Description of the Mark Curves.
Dearborn.	472 Wisconsin high-school pupils.	Symmetrical, fairly normal.
	Same pupils, freshman year, in Univ. Wisconsin.	Erratic and skewed to high end.
	5494 under classmen (Wisconsin).	Slightly skewed to high end.
	6397 juniors and seniors.	Very decidedly skewed to high end.
F~~inkelstein.~~	20,348 Cornell marks (all classes.)	Combined curves decidedly skewed high end. Typical of vast majority of separate class and course curves. Passing and exemption grades have great influence on shape of the curve.
Gray.	Number of marks not published. Of 9 general mark curves, several thousand marks in 2 Chicago high schools and 8 Indiana high schools.	Two are fairly symmetrical; 3 very erratic and badly skewed high end.
	28 curves of separate courses.	Four are fairly symmetrical; 24 decidedly skewed to high end.
Cajori.	1487 marks, 19 teachers, 3 Colorado high schools.	Decidedly skewed to high end. Influence of passing and exemption grades.
Rugg.	4842 math. marks of Illinois high school and college teachers (26 schools).	Very decidedly skewed to high end. Of 100 curves of separate courses, none are normal, or even symmetrical. Advanced courses skewed more than elementary.
	14,000 Univ. Illinois marks. (Plotted by H. W. Miller.)	Few curves approximately normal.
	200 Engineering courses (1912-13).	Seven curves symmetrical, with long tails at low end. Remainder are generally skewed to the high end. Very erratic.

marking scale, *e. g.,* the passing and exemption grades are almost always found to play an important rôle in shaping the mark curve.

6. From a study of 200 curves of single courses in the University of Illinois it may be concluded that the mark curves of engineering students is skewed further to the high end of the scale (*i. e.,* the mode is higher) in engineering subjects than in mathematical and non-technical subjects.

5. PROPOSED THEORETICAL SCALES OF MARKS.

To bring together the threads of our argument, we have shown that ''ability'' or ''mental abilities'' tend to distribute in any representative population in a fairly symmetrical or slightly skewed manner; that the frequencies (except in chance cases) do not become truly normal curves—the educational specialist to the contrary, nevertheless; that the curves of teachers' actual marks do not even approximate symmetry and practically never become normal (unless forced to do so by the arbitrary establishment of a normal system, as at Missouri).

We may next examine briefly the various theoretical marking scales that have been proposed, the utilization of which, it is believed, will reduce the present inequalities in marking and make our mark curves symmetrical. The essentials of each system are tabulated in Table 2:

Are there central tendencies, typical methods of thought represented in the design of these marking systems? Let us review this phase of our problem. Ten out of eleven of the designers of the above marking scales maintain that ability as measured by teachers' marks ought to be distributed in accordance with the normal curve, and all but one agree that a five division system is the best. But then their agreement stops. When it comes to fitting their proposed standard distribution of teachers' marks to the probability curve (assumed as the theoretic basis), the problem involves primarily the arbitrary placing of dividing lines between the groups, and disagreement ensues.

TABLE 2.

		Symbols used, equivalent percentile or letter grade and per cent. of individuals in each division.								
Investigator.	No. of Divisions.		Excellent.		Superior.		Medium.		Inferior.	Failure (or Poor).
Cattell	5		A		B		C		D	E
			10		20		40		20	10
Meyer	5		E		S		M		I	F
			4		21		50		18	7
Foster	5		A		B		C		D	E
			3		22		50		22	3
Smith	5		A		B		C		D	E
			10		15		50		15	10
Dearborn	5		A		B		C		D	F
			2		23		50		23	2
Finkelstein	5		A		B		C		D	E
			3		21		45		19	12
Gray	5		7		20		42		21	7
Cajori	5		7		24		38		24	7
Starch	5		A		B		C		D	F
Elementary.			10		39		39		8	4
Upper Class.			14		44		33		6.5	2.5
	9	A	A	B	B	C	C	D	D	F
Elementary.		3	7	16	23	23	16	5	3	4
Upper Class.		4	10	20	24	22	11	4	2.5	2.5
Hall	8	AA	A	BB	B	CC	C		D	F
		1	5	17	27	27	17		5	1

The systems seem to be built up on two principles, the first of which is common to them all. *Marking should first be "measurement by relative position,"* *i. e.*, all pupils of a given class should be ranked in order of excellence from the best to the worst; *second, the relative position or rank of each pupil should be transformed into a letter or percentile mark.* It is over this second step in the process that "the doctors disagree."

1. The absolute letter marks given to certain individuals in a ranking depends on the distance that limits of the differently lettered divisions of the scale are from some fixed point on the scale, as the median (middlemost point). Thus the proportion of individuals receiving the various letter marks is a function of the arbitrary judgment of the one placing the limits of the groups. Several of the above groupings are determined by finding the quintiles of the base line of the probability curve and computing the proportion of individuals

represented by the area of the curve limited by the ordinates erected at these points. Others, the majority, assume the middle group ''C'' to include 50 per cent. of the ''normal'' area—the dividing lines between the medium and superior groups and the medium and inferior groups coming at a distance from the middle point equal to the standard deviation. The breaking up of the upper and lower divisions to give the proportion of ''excellents'' and ''failures'' must necessarily again be an arbitrary process, and thus in the above cases results in proportions of the total groups ranging from 2 to 10 per cent.

2. The absolute percentile mark assigned to various individuals in the ranking must, if correctly computed, be based upon a determination of the average difference between adjacent individuals in the series. To the writer's best knowledge, but one investigator, Dean Cajori (13) has made his practice consistent with his theory and designed his scale in accordance with the accepted mathematical theory of Pearson's individual difference problem. That the results obtained by this correct statistical method do not agree with those obtained by ''inspection'' of the normal curve is quite evident from a survey of the above table. Using the Cajori method, the transmutation of unit distances from the middlemost individual into percentile marks also involves an arbitrary selection of the upper and lower limits of the three middle groups, these groups each being assumed to have a base line equal in length. *But the method does correctly transmute relative position on the normal curve into absolute marks by taking account of the true average difference between any two adjacent individuals in the distribution.*

To determine the effect of fitting the distribution of actual teachers' marks to the distribution given by Pearson's solution of Galton's Difference Problem, the writer has applied the method to the marks given nine classes of freshmen engineers in descriptive geometry in the University of Illinois (1912-13). These classes were originally marked on the completion of identical subject-matter (the subject-matter of the course is absolutely standardized for the entire department, the methods of teaching are fairly so) in such an analytical manner as to give a very good approximation to the true relative ability of all individuals included. The students in each class were "ranked" in order of merit, regarding the original marks as the basis of the ranking. Placing the range of the three middle groups (superior, medium and inferior) at, first, 70-90 per cent., and, second, 70-95 per cent., there was computed the percentile marks corresponding to each of Cajori's unit distances from the median. The deviation of each mark was then found from the original corresponding mark. The findings of this application of Cajori's method to actual marks may be quoted briefly from the previous study, as follows: "It seems clear that the application of Cajori's scale of normal units to these nine classes tends to raise all of the marks given, somewhat at the high end of the scale and very much at the low end of the scale. Marks between 90-100 were raised by 3 per cent.; those between 80-90, raised by 3-5 per cent.; between 70-80, raised by 5-7 per cent.; below 70 per cent., raised by 12 per cent." Reference to the above examination of Cajori's method merely gives the effect of using a true normal method which takes account of average differences between individuals in a group. If one believes the normal distribution of marks to be the ideal one, he can do no better than to use the Cajori method: it is statistically correct, and when used in connection with a table of percentile marks computed from the table of unit distances (partly reproduced in Plate 1) for varying size of classes will prove to be one of the most rapid methods of marking. Those interested are referred to Cajori's original paper for details of his method.

To sum up the chief characteristics of these proposed marking systems:

1. For various logical and administrative reasons a five division marking system has become accepted by all specialists as the best. The qualities denoted by each may be described as Excellent, Superior, Medium, Inferior and Poor or Failure. Letter marks are generally preferred to percentile marks.

2. There is a wide divergence among investigators as to the proportion of individuals assigned to each division of the system. The general tendency is to place from 40-50 per cent. in a middle or medium group, about 20 per cent. in adjacent

groups and from 3-7 per cent. in the upper and lower groups. The true proportion in each group must depend upon the exact type of symmetrical curve that is adopted as the basis of the distribution. If a normal frequency is assumed as the basis, the assignment of marks should take account of the principle of ''average difference'' between any two individuals in the group. This can be easily and accurately done by applying the Cajori method of unit distances.

3. Owing to the present chaotic condition of opinion and the insufficiency of scientific data on the distribution of those abilities that can be measured by school marks, one can make no positive conclusions as to the best form of distribution or the proportion of individuals to be assigned to each group. It seems quite probable, however, that abilities measured by school marks are actually slightly skewed to the high end of the percentile scale, and that two theoretical skewed curves should be assumed as the basis—one slightly skewed for elementary classes, the other more greatly skewed for advanced classes. It is to be hoped that intensive qualitative and quantitative studies will be made of this problem, aiming to supply school and college administrators with a safe guide for standardizing their practice. In the meantime, the consistent use of any of the conservative scales of distribution cannot but tend to improve the condition of teacher marking.

6. THE RELIABILITY OF TEACHERS' MARKS.

We have next to attempt an answer to such questions as these: How reliable are teachers' marks? How do they vary among schools or among teachers in the same department? Are teachers uniform in their marking of the same papers or of the same students in the same subjects? How closely ought a school administrator to expect his teachers to mark? Does the use of objective scales by teachers and students raise the efficiency of marking? How may the reliability of teachers' marks be best studied?

As this paper goes to press a monograph is announced by F. J. Kelly, "Teachers' Marks. Their Variability and Standardization." Teachers College Contributions to Education, New York, 1914. The writer regrets his inability to include in this summary a statement of Mr. Kelly's principal points.

1. On these questions we have definite scientific evidence to help us from several sources. Practically all our investigators are unanimous in their a priori opinions that teachers vary widely in their standards of marking and in their reliability of marking. Steele (7.), Finkelstein (11) and Rugg (39) each brings some definite evidence to bear on the problem, and these are strongly reinforced by the work of Starch (9) and Starch and Elliott (8). Under such individualistic marking systems as are in use today teachers' marks do vary widely—there are large individual differences in teachers' marks of the same students in the same subjects, on the same examination papers and the same drawings and lettering samples. The mean variations in many of the instances tested run as high as 15 per cent. They practically never are less than 5 per cent. Steele found the mean variation of eight markers on the same examination replies to vary from 2.5 per cent. to 8.1 per cent. Starch found mean variation among instructors in the same department marking English papers to be 5.4 per cent. According to Starch and Elliott, the probable error (almost the same as the mean variation in these cases) of 142 high school teachers marking the same English paper was 4.5 per cent.; the same geometry paper, 7.5 per cent.; the same history paper, 7.7 per cent.; 50 per cent. of the marks were separated by more than 9 per cent. Rugg (1914) found a mean variation for teachers of lettering marking the same 20 samples of 8.6 per cent., and among students trained in lettering of 11.4 per cent., both groups never having seen an objective scale in lettering.

2. Starch and Rugg both found the variation in marking to be as large within any one department as that among departments and schools. Starch established a mean variation of 2.2 per cent. in any one teacher's marking of the same paper. He attempts to determine the relative amounts contributed to the total variability by the various factors affecting it. He concludes that the total difference in marking is due to Differences in standards among schools, among teachers, in same school or department, to inability to distinguish small differences in quality of school product, and to the change in

an instructor's own standards. The relative amounts contributed by each may be determined from Plate 1.

The Minimum Size of the Marking Unit. From the results of three of the four investigations bearing on this question of the size of the marking unit we may conclude that teachers, marking without an objective scale, cannot be expected to mark student work in any subject—mathematics, history, composition, lettering, etc.—within an interval of roughly 8 per cent. Finkelstein deduces a five division scale rather arbitrarily, maintaining that there should be four divisions above passing. This, with a 60 per cent. passing mark, would give a unit of 10 per cent., with a 70 per cent. passing mark, a unit of about 8 per cent. Cattell uses the Probable Error of marking as the determiner of the size of the marking unit, and says he has "estimated from a few experiments" that the Probable Error in the middle of the range is 10 units—hence this should be the minimum marking unit.

Starch, however, offers a statistical method of determining the minimum unit, as follows: Seventy-five per cent. of any psychological measurements should lie within the smallest unit. Since a range of 2¾ times the mean variation includes 75 per cent. of the estimates, he takes 2¾x1.75 which is the mean variation in marking among teachers due to change in their own standards), or 4.8 per cent. Thus, according to Starch, the minimum unit should be, roughly, 5 per cent.

The Effect of Objective Scales Upon the Reliability of Teachers' Marks. It has been repeatedly suggested that the efficiency of marking would be considerably raised by the use of such objective scales for measuring educational product as have now been designed. The writer has not at his command any comparative data bearing on this problem, except his own results on Free Hand Lettering (Jour. Educ. Psych., Jan., 1915). He therefore quotes briefly his own findings concerning the relative variability of teacher and student marks with and without the aid of his Scale for Measuring Free Hand Lettering (Urbana, Ill., 1914):

1. The mean variations in marking the same 20 samples of lettering (using the Scale) are, for teachers, 5.31 per cent.; for students, 5.92 per cent. (Thus students can be trained to

mark practically as accurately as their teachers. Starch and Elliott found students more lenient in their marking English, geometry and history papers than teachers of experience. This may be interpreted to indicate that their mean variations would be larger.)

2. Marking with the Scale gives a fairly constant mean variation on samples from any part of the marking range (30 per cent. to 100 per cent.). When marking without the Scale, the mean variation of teachers is twice as large (10 per cent. to 5 per cent.) and of the students three times as large (15 per cent. to 5 per cent.) with samples of quality below 75 per cent. as with samples above 75 per cent.

3. Students who have used the Scale 15 minutes a week for seven weeks have fixed such definite impressions of percentile qualities on the Scale as to mark nearly as accurately as those using the Scale.

While these results are meager, they are an indication of the effectiveness of those objective scales which have been designed upon a basis of qualitative analysis. In the near future we may expect many studies on the validity and practicability of the various scales and standards that teachers are now being urged to adopt for use in their classrooms.

7. WHAT CAN THE SCHOOL ADMINISTRATOR DO ABOUT IT?

We have pictured the status of the theory and practice of teachers' marks and marking systems; the thing measured, its distribution and the factors affecting the form; the distribution of teachers' actual marks; the various proposed systems or scales for marking; the reliability and variability of teachers' and students' marks, and the minimum practicable marking unit. The status is far from ideal—standards are almost unknown. Six hundred thousand teachers in the United States, each marking 20 to 50 students daily, with as many measuring sticks and diverse systems of marking. What can the public school or college administrator do about it?

At least three things:

First, he can acquaint himself (a) with the marking system in theory and practice as it exists among schools and colleges;

(b) with the status of marking among his own teachers within a school or departments and among those teaching all the different subjects of study. He can determine the relative reliability and variability in marking of his own individual teachers and the form of distribution to which the marks of such teachers conform.

Second, from the theoretical and empirical data at his command he can design a tentative marking system for use in his system of schools, the purpose of which shall be to make uniform the standards of marking, the method of marking, the minimum size of the marking unit and to increase the reliability of his teachers' marks through the adoption of such objective scales of measurement of school product as have been found efficient and applicable to his own conditions.

Third, he and his teachers can conduct a practical and cooperative experiment with his tentative system, making such changes as prove necessary to its successful adaptation to local conditions. In this phase of the work he may well find it necessary to conduct meetings for the testing and training of his teachers in the marking of papers, reports, drawings, oral recitations (a very practical suggestion, first made by Steele). In establishing his uniform system he may well require approximate conformance to it by all teachers in his department, college or system of schools. To secure this he should periodically (semi-annually or annually) publish the mark distributions of all teachers and such reliability indices as he may have of their marking. He should require eccentricities in marking to be explained, and might even go so far as to "calibrate" or adjust the marks of unruly teachers who refuse to co-operate or conform in general to his system.

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DISCUSSION

Where Is Arithmetic Well Taught?

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WE are told so frequently that our teaching of arithmetic is poor, that American boys and girls can not compute accurately and rapidly, that remarks on this subject are likely to make little impression. The following quotations from the Reports of the International Commission on the Teaching of Mathematics are of interest at least to show that the teachers of arithmetic in other lands do not escape crticism. No attempt has been made to make a complete list of such statements from the reports of the International Commission. The following statements were noticed while reading the reports for other purposes. It seems probable that such statements can be found in the reports from other countries.

In the American Report in the Report of the Subcommittee on Secondary Commercial Schools this statement is found: "The[1] teachers in these schools frequently make the complaint about the previous preparation of their pupils in arithmetic, that they lack in accuracy, speed and knowledge of practical problems. Some schools report, however, that the foundation which they have in mathematical training is excellent for the drill that the business college wishes to give them. The comment made by the teachers in these schools is also made by many of the teachers in the other types of schools."

"The[2] work in mathematics in our elementary schools has been criticized—has always been criticized—as unsatisfactory. In general it is said, and with some truth, that pupils leaving the schools at the age of 14 can not add, subtract, multiply, and divide, in the domains of integers, simple common fractions and decimal fractions, with fair rapidity and with accuracy, and that they are deficient in the ability to find per cents of numbers. The general public, and, indeed, the counting-house, the bank, and industry, give voice to few other criticisms of arithmetic, but there is no uncertainty as to those that have been mentioned."

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[1] Report of the American Commisioners of the International Commission on the Teaching of Mathematics, p. 23, 24.

[2] Report of Committee No. VI: Mathematics in the technical secondary schools of the United States, p. 23, 24.

The English report, after stating that "notwithstanding[3] great improvement during the last ten years, arithmetic in most of our schools is laboriously rather than well taught," goes on to say:

"There is ample proof of this, but, if no other evidence were available, the reports of the Examiners for Junior Scholarships in London would suffice to show that in the metropolis at any rate the teaching of arithmetic is still far from satisfactory. In the Junior Scholarship Examination over 20,000 boys and girls are examined each year, so that the data for criticism are fairly ample. Of these, reckoning the boys only, some 54 per cent in 1906, 54 per cent in 1907, 79 per cent in 1908, and 57 per cent in 1909 obtained less than half marks. The girls were not so successful, and making every allowance for the fact that the examination is competitive, and designed to discover the best candidates, these results can not be accepted as in any real degree satisfactory. After a fair consideration of the questions set and the Examiners' reports, the unavoidable conclusion is that in a large number of London schools either arithmetic is taught under very adverse conditions, or is not taught on sound lines."

The British Report No. 4, from which the above paragraphs are quoted, was written by the head master of the Bloomfield Road Council School, Woolwich.

The following is taken from Volume IV of the French reports,[4] This volume deals with the technical schools. The part quoted was written by a professor in a technical school:

"At the time of their admission to the industrial school the students are familiar with the practical side of arithmetic; it is, moreover, the only branch of mathematics to which they have been introduced in the primary school. They know the mechanics of the fundamental operations with integers and fractions; they have studied the definitions and the principal relations of the metric system and have taken up the important applications of proportion. As to the theories to which their young minds would be ill-adapted, they have no suspicion of them. They are "rough-hewn" (degrossis); but their knowledge is vague, confused, and, above all, they do not possess in the practice of calculation sufficient ability to handle with assurance the usual applications of arithmetic. On account of the age of the candidates we may obviously not demand of them that this science be acquired. Also in stating the preceding facts, we wish to disclaim any desire to make an unkind criticism of the primary teaching."

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[3] Report No. 4: The teaching of elementary mathematics in the English public elementary schools, p. 5.

[4] Volume IV. Enseignement Technique, p. 53.

The students in question are, when they enter the industrial school, between the ages of twelve and fifteen, and have had at least six years in the elementary school.

The next quotation is taken from No. 5 of the Swiss reports.[5] This is a report on the teaching of mathematics in middle technical schools of Switzerland, and was written by a professor of mathematics in a technical school.

"It should be recalled that the students in the schools considered are at least fourteen years old; they have passed through the public school, that is, through the primary instruction and even a large number of them through the secondary elementary instruction. Consequently the students have been taught numerical computation, they should know the multiplication table thoroughly, and be reasonably drilled in mental arithmetic. This is, unhappily, not always the case. Why? Is it because the elementary teaching of arithmetic has been too rapid? Should the methods used in the primary teaching be modified? These are very delicate questions upon which the opinions are greatly divided. In all cases the fact is this: *The young people who enter the technical schools do not in general know how to calculate sufficiently well.* To remedy the evil we believe that it would be necessary, above all, to look for the cause of it, on the one hand, in the overloading of the programmes of the lower schools, and on the other in the too large number of pupils imposed on the same teacher.

The teaching of arithmetic in the elementary technical schools reveals also another general defect: *The students who come to us do not know how to arrange the solution of a problem in arithmetic.* Now such a work is, at the same time, a matter of reasoning, of order, and of good style, upon which it is absolutely necessary to insist. Here it is not the writer who is speaking, but a very great number of colleagues who have responded to questionnaires."

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[5] No. 5. L'Enseignement des mathematiques dans les Ecoles techniques moyennes suisses, p. 74.

The following statements are taken from Band IV, Heft 6 of the German Reports. This particular report deals with the instruction in mathematics in the commercial institutions of Germany. The author is an Oberlehrer in a technical school, and is also Dozent in a Handelshochschule.

In order to determine the preparation of commercial apprentices, the German Society for Commercial Education has at different times made out examination questions to be given to apprentices entering the commercial continuation schools. The examinations are given in German and arithmetic only. The examination in arithmetic has two parts, oral and written. The following questions were given at Easter in 1911.[6]

Oral.

1. 100 g cost 12 pfennig. How much does 1 pound cost?
2. What is the cost of 3 pounds, if 50 g cost 10 pfennig?
3. What is the total cost of 3½ m at 60 pfennig and 2¼ m at 72 pfennig?
4. 3¾ pounds cost 8 marks; what is the cost of 1 pound?
5. $\frac{3}{4}+2\frac{3}{7}=$
6. From an account of 64 marks 5% is deducted. What is the amount paid?
7. Of a consignment of bottles 4% were broken. The number broken was 56. How large was the consignment?
8. What is the interest on 440 marks at 6% for 1 year?
9. What remains out of 20 marks after paying for 5 pounds at 1.65 marks per pound?
10. After ⅕ of a consignment has been sold there remain 120. How large is the consignment?

Time: 20 minutes. When for the solution of the first problem 1½ minutes have elapsed, a sign is given and the second problem follows, and so on.

The students write on a piece of paper the results that they find, and that only.

Written.

1. A merchant receives 4 consignments of goods with the values of 832.25 marks, 1908.78 marks, 239.80 marks, and 2834.17 marks. What is the total?

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[6] Band IV, Heft 6: Rechnen und Mathematik im Unterricht der kaufmännischen Lehranstalten, by Dr. B. Penndorf, pp. 15, 16.

2. Add $11\frac{3}{4}+5\frac{5}{6}+16\frac{3}{5}+22\frac{2}{3}+9\frac{1}{8}+15\frac{2}{9}$.

3. $(138.5+12.28+3.478+212.009)\div 3\frac{4}{5}$.

4. $\dfrac{570\times 3\frac{3}{4}\times 96\times 5\frac{1}{2}\times 100}{200\times 5\times 16\times 1\frac{1}{2}\times 99}$

5. What is the cost of 28.433 kg @ 4.58 marks?

6. An article that cost 350 marks is sold for 385 marks. What is the gain per cent?

7. A man bought for a coat and waistcoat 2.25 m of material @11.25 marks, and for trousers 1.10 m @ 10.25 marks. What was the total cost?

8. A kilogram of a certain article costs 3.75 marks. How many kilograms can be obtained for 757.50 marks?

9. A merchant buys 300 bottles @ 4 pfennig. 20% of them are broken. At how much each must he sell the remainder so as to gain 20%?

Time: 1¼ hours, exclusive of the time taken to write the problems on the blackboard.

To pass the oral examination at least four correct answers must be given, and to pass the written at least four correct answers must be given.

In 1911 the examinations of the Society were given in 198 schools for male apprentices, and in 19 schools for female apprentices.

"The[7] combined results of the examinations in the institutions for male apprentices show the following: Of the 6818 (in the previous year 6749) new students, 1195, that is 18 per cent (in the previous year 1181, or 17 per cent), were insufficiently prepared."

"Of the 327 (in the previous year 391) new students entering the schools for female apprentices, 78, or 24 per cent (in the previous year 98, or 25 per cent), were insufficiently prepared."

"The combined result is, however, such that it makes the complaints concerning the insufficient preparation of the young people entering commercial pursuits appear completely justified."

The quotations just given refer to the results of the examinations in both German and arithmetic.

In 1911 21 per cent of the male candidates failed in the examination in oral arithmetic, and 30 per cent in written arithmetic; of the female candidates, 29 per cent failed in oral arithmetic, and 62 per cent in written arithmetic. These percentages of failures are seen to be considerably higher than those for German and arithmetic combined.

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[7] Band IV, Heft 6, pp. 16, 17.

It is not to be concluded that the Reports of the International Commission are devoted to fault-finding. They are not. Such criticisms as the ones quoted are rare. But they show that the failure to attain desired standards of speed and accuracy in the fundamental operations in arithmetic is not limited to any one country.

BOOK REVIEWS

Ellwood P. Cubberley. *State and County Educational Reorganization.* New York: The Macmillan Co. 1914. Pp. xx, 257. $1.25 net.

The sub-title of this book states that it contains the revised constitution and school code of the state of Osceola. In this novel form is presented most successfully a treatise on state and county school administration. After a brief chapter which includes the provisions which should be written into the constitution of a state, there follows the revised school code organized under the following heads: Administrative Organization, The System of Public Instruction, the Support of the System, the Environment and Equipment, the Teaching Force, State Oversight and Control, together with appendices which are mainly statistical. It is difficult to single out any one section of the code for special discussion. Possibly the most significant contribution is to be found in the chapter dealing with county educational organization.

Professor Cubberley, more than anyone else who has written in this field, has here given concrete expression to a plan for enlarging the administrative unit to include the whole country. A county board of education elected at large and an administrative head and supervising corps whose work is made as significant as that of similar officers in a city school system, are important features of the reorganization provided by the law. Efficiency in educational administration for schools outside of the city districts would undoubtedly be very greatly increased were the plan presented in the book to be enacted into the law of any state of the Union. The plan proposed recognizes the necessity for district educational organization under county control, and presents a thoroughly sound scheme for the educational organization in cities of the first class. The appendix on County Educational Reorganization, as required by the code, illustrates most adequately the method of procedure in working out this plan of control.

If we are ever to develop in this country a profession of teaching, we must see to it that the rank and file of teachers, as well as supervisory and administrative officers, have clear ideas and definite aims with respect to the development of our state systems of education. In the opinion of the writer, a very great service has been rendered to the profession in the preparation of this book. It will prove invaluable as a book of reference for legislative committees, code commissions and committees of state teachers' associations who are charged with the responsibility of reorganizing the educational law of the several states. It will serve as a most satisfactory text in the courses in administration which deal with state and county school systems. It should be *taught* to everyone who is now engaged in teaching or who is in attendance in the professional schools for the training of teachers. GEORGE DRAYTON STRAYER.

Teachers' College, Columbia University.

CHARLES HUGHES JOHNSTON AND OTHERS. *The Modern High School.* New York: Charles Scribner's Sons. 1914. Pp. xviii, 847. $1.75.

This book looks forward, not backward. While it deals with present-day problems, many of the most vital ones raised have not yet been completely solved. In this volume may be found valuable contributions toward the settlement of many pressing questions in high school administration.

"The Modern High School" will appeal strongly to progressive school men. Within a week the writer, at different times, has mentioned this book to an up-to-date high school principal and to a university inspector of high schools. Both spoke enthusiastically of its unquestionable merits.

We are looking more and more for scientific and expert guidance in school organization. Few writers alone are able to make real contributions in many fields. The editor has brought together within this single volume some of the best things that have been written on various phases of high school organization, as presented by a number of competent authorities, and has blended the various chapters into a well-organized whole. These thirty independent but correlated chapters reflect a single point of view upon the many phases of the American high school.

The social extension of the high school is the ever-present theme of this book. Development for service—for social service—is the demand placed upon the schools. The authors would have the organization in process render constant service.

An excerpt from the introduction will best express the gist of the book:

"This volume represents an attempt to make it easier to think naturally of the high school as the Temple of our Democracy, with its halls an art museum; its debating teams and supporting audience real though miniature forums; its playgrounds and athletic fields ethical as well as hygienic laboratories; its classrooms meetings where co-operation, investigations, live discussions, and the application of knowledge to living are carried on as a matter of course; and its student organizations the wholesome expression of the best organized student sentiment."

The purpose of the book as here outlined is successfully elaborated in the chapters which compose the volume.

The thirty chapters have been grouped under four heads. Part I treats of the institutional relationships of the high schools; Part II contains six chapters bearing upon the more intimate relationships of high-school work; Part III relates to the internal social nature and functions of the high school; while Part IV discusses additional social functions of the modern high school.

The following topics are presented in the first division of the book: High school education as a social enterprise, the legal status of the high school, the high school as a business enterprise, and three chapters dealing with the relation of the high school to the elementary school, to the higher educational institutions and to the industrial life of the community. The writers of the various chapters have usually based their discussions upon concrete data. The chapter on *The High School as a Business Enterprise* contains many tables of valuable data upon the training of high-school teachers, cost of schools, and other interesting factors in high-school growth.

In Chapter V may be found a most interesting discussion of the necessity for a reorganization of the curriculum. The writer suggests the division of the twelve-year course into three divisions. He would have a primary school covering six years of work, an intermediate school embracing the seventh, eighth, and ninth school years, and a high school including the tenth, eleventh and twelfth years of the child's training. These three schools would not be parts of one continuous course, but would have distinct characteristics of their own. The intermediate school would be planned more especially for the many who would never go to high school. The author would cater to three groups of pupils in the intermediate schools: (1) those who wish academic training; (2) those who desire academic training and manual training; (3) and those who need, in addition to general training, some special training. The author believes that nearly all pupils might be retained in school, for nine years, by means of this kind of organization.

Chapters in Part II treat of the curriculum, class management as related to the family and the community, the direction of study, comparative values of school and home study, home and school associations, and agencies which should co-operate with the school.

Where a wealth of good material is offered it is hardly fair to select the contributions of two or three of the contributing authors, but the reviewer takes the responsibility of calling attention to Chapter X of this volume. The writer in discussing the *Direction of Study as the Chief Aim of the High School* gives the key to the chapter in the following statement: "Educators are now recognizing that no small part of the teacher's mission consists in the direction of the pupil's method of study." Excellent paragraphs follow on such topics as the meaning of study, factors in the technique of study, plans of supervised study, the use of books, etc. This chapter strikes at the very heart of teaching. Indeed, Chapter XI, on the *Social Value of School Study versus Home Study,* should be mentioned along with Chapter X.

Seven chapters of the volume deal with the mutual government of the school, the improvement of teachers in service, the activities of high-school students, high-school athletics, debating clubs, high-school journalism, and high-school fraternities.

The reviewer would be glad to call attention to the several proposals for the extension of the high school as discussed in different chapters. The control and direction of high-school athletics, debating clubs, and high-school publications are some of the interesting subjects treated in this book. The practical value of these chapters will appeal to modern high-school teachers.

The last part of the book is given to excellent chapters on the school as a social center, continuation work, the library, vocational guidance, avocational guidance, co-operation in the teaching of English, high-school hygiene, art in the school, moral agencies, and the religious life of the high-school student.

The chapter on *Avocational Guidance* will be of interest to all who read the volume. The author mentions four kinds of activities which education should influence: vocational activities, group or social activities, avocational activities, and diversions. These several activities are distinguished and discussed in a most pleasing manner. The chapter on *Vocational Guidance* should be mentioned.

Nearly seventy pages of classified bibliography, a detailed table of contents, a full index, and numerous tables and diagrams add greatly to the effectiveness of the presentation.

This volume will contribute much to the already growing conviction that the American public school is the greatest single institution this country has produced, and that its further development and extension is most important to the continuance of our sound national life.

So many topics of interest to school administrators are presented in this volume that it is quite impossible to give an adequate review of them in a few hundred words. For this reason the reviewer has enumerated the principal subjects treated with the belief and hope that those who read these words may become interested in the book itself.

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EDITORIALS

The Nation as a Participant in Popular Education*

THE efficiency of a nation makes it necessary that the system of popular education provide healthy physical development for all, raise the intellectual level of all and furnish all with patriotic sentiments,—that the "full consummation of military training" be attained, says Bernhardi. The national school thus at the same time becomes the "best preparatory school for life generally," he adds, as a matter of course. Only the army of a warlike and patriotic people can achieve anything really great. After the school then the government must control a strong and aggressive national press. With this must go an imperial policy capable of idealizing for all citizens the duty of fostering the military spirit and naturalizing this "national propoganda of action." The State being a moral entity, the goal of the State's education being avowedly nationalistic, Germany must develop a national policy of concern in and directive control of all those social agencies and instruments which

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*For more elaborate discussions of this theme see John Dewey, A Policy of Industrial Education, *The New Republic*, Dec. 19, 1914; and see The Nation's Adventures in Education, *Unpopular Review*, Jan.-March, 1915, pp. 149-158; and see Vols. I and II of Report of the Commission on National Aid to Vocational Education, 1914, Government Printing Office, Washington.

contribute to high efficiency in commerce and trade, in administration of civil affairs, in military life, and in national culture.

Germany's national methods of education, efficient as they are for her purposes of dedicating all individuals to the services of *Deutschland,* as a sort mystic and over-individual social entity, it is questionable whether the United States may undertake any such superimposition of a controlling national ideal upon the educational consciousness of the widely differing States of the Union and the equally widely differing traditions of education and of government prevailing among the various inhabitants. It is still more questionable whether any such pagan call for energy and loyalty would be effective in America.

Such queries as the above are inevitably raised as one seeks to interpret the significance of the appointment and of the findings and recommendations of the Commission on National Aid to Vocational Education. Here we note a sort of national inquisitorial interest in popular education; "national" because millions are eventually to flow from the nation's treasury if the proposed bill passes Congress; "inquisitorial" rather than professional, because the personnel of the proposed Federal Board of Vocational Education is to consist of the Postmaster-General and the Secretaries of the Interior, of Agriculture and of Commerce and Labor, and not of a minister of education.

In America it would appear that we still are far from the adoption of the idea of politics as an embracing activity of citizenship, and as far from accepting, on the other hand, the ideal that education is the highest public function of a State. Our political congressmen, certainly far from intimacy with professional convictions regarding feasible kinds of public education and kinds of public schools, and equally as confident that they have diagnosed the educational requirements of the "people," may even in Federal legislative enactments solve on paper the very vexing and complex problems of industrial or special and of general education. It is not unlikely, and is altogether desirable, however, that the Government may eventually seek the exhaustive opinions of educational experts before very effective steps toward Federal co-operation with States in financial support of needed kinds of practical education are taken.

The present bill as now drafted seems seriously defective in that it is a compromise, distributing national funds by States, with no clear popular idea of what the funds are for,—of what constitutes industrial education,—and with an actual probability, too, that the aggressive richer sections of the nation will be able to secure the national subsidy, while the most needy sections cannot fulfil the conditions for such national bequests.

It would seem that the best sort of national contribution at the present time, and the best sort of national participation as well, in this matter and in this issue of universal *general* and of universal *special* education would be to secure dependable and thoroughgoing bases for common education, both special and general, for the nation as a whole, and establish on this national basis some moral equivalent for the so effective nationalistic and martially patriotic bases underlying some of the mighty European systems. There is nothing yet sufficiently gripping in the platforms of the advocates of more of general education for all or of those advocating vaguely what they call special education.

C. H. J.

VOLUME I MARCH, 1915 NUMBER 3

EDUCATIONAL ADMINISTRATION AND SUPERVISION

The City Superintendent of Schools and Vocational Education

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THERE are a few cities in the United States that are financially able to employ expert assistants to make investigations from time to time, and to work out the details of measures adapted to meet the demands of changing conditions. In most communities, however, the superintendent of public schools is not supplied with adequate help to keep the regular school machinery running properly, and to provide for the systematic extension and improvement, and occasional readjustment, of the routine. Much less is there, ordinarily, any suitable provision for coping with wholly new problems as they arise.

The first fact to be noted, therefore, in discussing the administration of vocational education in the public school system is that it is primarily a physical problem of finding the requisite time and energy to give the subject the attention that it demands. Herein is to be found an element of unfairness, or else an evidence of lack of penetration, in much of the criticism of public school men that has gained a certain currency of late. There are undoubtedly a number of city school superintendents who know more about politics than they do about the principles of education or the theory and practice of school administration. Some men of this class are perhaps wholly indifferent to the present social awakening to the need for educational reform, and are even obstructing progress, so far as they may be able. But it is not without significance that among the sanest progressives in the vocational education propaganda are to be found numbers of public school men who have been thoughtfully studying and working on these problems for years past. If a distinction is to be permitted between men of this class, on the one side, who will not order heavy expenditures until they are able to reason their way through to results, and, on the other, vociferous promoters of anything to get started, there can be no question as to which class will ultimately carry the cause the farther.

Superintendent's Staff Should Be Enlarged.

In very many communities it will be necessary to add materially to the administrative staff, or in other ways relieve the superintendent of some of the present burden of responsibility, in order to release time and energy for aggressive study of the new problems. Until this is done nothing will be accomplished by badgering the superintendent with general criticisms to the effect that he is indifferent, incompetent or asleep, or by confusing issues with unsupported assertions to the effect that only ''practical'' men can deal with the situation.

A second fact to be noted is the rapid change in the nature of the proposals offered by the experts for consideration. A few years ago it was asserted authoritatively that what was needed was industrial education which ''ought to mean trade schools, and nothing but trade schools.'' If there ever was a time when it was certain that every city should have a trades school, the time has passed. A number of cities, having carefully investigated their needs, have determined that they are not ready for trades schools, or that other types of school are more urgently needed. Even enthusiastic advocates of the democratic extension of educational opportunity may well pause in contemplation of what would be the present status of educational reform in this country if, say, fifty or one hundred cities had five years ago acted on the then prevalent advice and invested heavily in elaborate and efficient trades schools, awakening later to the realization that this policy was not the best adapted to meet their needs.

Current Advice as to Procedure.

Although there is perhaps somewhat less of unanimity of opinion than there was when less was positively known, there is still abundance of advice and suggestion for the superintendent who has the facilities, and who wishes to do something. Judging from the tendencies apparent in convention programs, and from the emphasis in current publications, the safe and sane thing to do just now is to "investigate." A close second is to "experiment."

This disposition to proceed with caution, making sure of every bit of ground before assuming a new position, may seem too conservative to those who have a program all worked out, but it is to be regarded as symptomatic of sound progress.

The more important problems and conditions requiring investigation may be briefly enumerated as follows:

1. Every community should make a study of its own social and industrial conditions, as well as present educational facilities, in order to determine: (1) the relation between the educational needs of the community and the existing facilities for supplying them; (2) what extension of existing provisions for general education is necessary, and (3) what forms of vocational education are called for and are practicable. After such investigations have been made in a number of typical cities it should be possible in many places to dispense with certain detailed features of the inquiry and needless repetitions. But, to borrow a figurative illustration from another field, even after a fairly satisfactory method of treatment has been developed for the alleviation of a given condition, for example, myopia, it is a good plan in any individual case to make sure by diagnosis that the condition exists before prescribing the treatment.

2. There is urgent need for careful analysis of many occupations, for the purposes of discovering common elements, and of organizing materials for courses of instruction for those engaged in, or contemplating entrance upon, such occupations. A few of the fundamental occupations have been thus studied and analyzed, but what has been done for a few of the metalworking, woodworking and printing trades needs to be done also for many other occupations.

The superintendent of schools probably cannot do much of this work himself, since it cannot be done effectively during irregular vacant periods in a busy program, nor in snatches of leisure time after hours. He can, however, interest some member of his staff in problems of this nature, and adjust the program of such assistant so as to make the study possible. Such investigations would form a legitimate part of the work assigned to the divisions of reference and research that are being organized in a number of cities.

3. A very important task is the development of satisfactory courses of study in the common branches for use in vocational schools and classes. The textbooks, courses and methods in mathematics, language, history and civics now to be found in the regular public schools are not well adapted to the special classes which it has been deemed expedient to organize.

School superintendents should interest themselves in the analysis of subject-matter and construction of new courses and study outlines, for there is reason to believe that the work of the regular schools will profit by these efforts to discover essentials and to eliminate waste.

Reorganization of Schools Needed.

4. The reorganization of the public elementary school is a subject on which superintendents are becoming keenly alive, and a possibility toward which the signs of the times seem to be pointing. It is not easy for a superintendent to move very much faster than his community, nor very far in advance of it. The tide of popular interest in the subject is rising, however, which may very soon be transformed into support of progressive readjustments. The vocationalizing of the public schools, which some of the prophets are predicting, will neither embarrass by suddenness of appearance nor carry away by enthusiasm of novelty, for the intelligent superintendent is already gradually preparing for it.

It is not too much to say that if the elementary school could be made to serve the needs of all children at least as well as it now serves those who go on to high school and college, the problems of vocational education in the secondary period and higher would be very much less acute than they now appear. The great difficulty seems to be to determine just what these needs are. The requirements of no other group of children, educationally speaking, have ever been so clearly defined as those of the group who are expected to want *more education.* That one needs education in order to acquire more education is obvious. Some day it will be equally obvious that education can be made useful for other purposes.

5. There must be more of the right kind of experimentation before the needed reorganization of the schools can be consummated. The experiments require careful planning, intelligent direction, the keeping of adequate records of conditions and the full reporting of results. Surely, here is work for the superintendent.

The best methods, for example, of teaching the essentials of mathematics to mature workers whose early education has been neglected can be determined by experimentation. The process can be hastened if numbers of experimenters compare notes.

6. A most encouraging sign is the growing spirit of cooperation. It is much more common than it used to be for a superintendent to call upon a colleague in a neighboring, or even distant, city for specific help. Superintendents frequently visit other cities, studying schools and methods for the purpose of securing definite suggestions for utilization in their own school systems.

City superintendents are also learning that there are numerous sources of help available in different parts of the country, and they are sending up a constantly-increasing volume of appeals and applications. Among these helpful agencies are to be mentioned the Federal Bureau of Education and the State departments of public instruction, the facilities of which are being extended every year; the State universities, and the departments of education in other institutions, include in their faculties experts in many lines of educational activity, whose spheres of influence extend far beyond the limits of the campus; and valuable service of the same character is rendered in increasing measure by the faculties of many State normal schools and private training schools. The opportunities for securing help are so general, therefore, and the sources of expert advice so accessible, that no superintendent need hesitate simply because he is uncertain what to do.

THE LARGER PROBLEMS OF ADMINISTRATION.

There are larger questions of administrative policy to which the city superintendent of schools must give earnest attention in order to assume his share of responsibility for present tendencies and future developments. Common interests in vocational education are drawing into alignment and engaging the serious consideration of various important social groups—employers, organized and unorganized; workers, organized and unorganized, and citizens, fathers and mothers, organized and unorganized. It is of the utmost importance that those responsible for the administration of the public school system shall maintain an attitude of imperturbability during periods of public clamor and confusion, of insusceptibility to prejudiced advice or undue influence, and of undivided devotion to the highest interests of the children, and hence of ultimate social welfare.

1. It is especially important that school administrators inform themselves as to the fundamental meaning of the discussion now rife in certain localities concerning the control of vocational education. It must be admitted that there are two sides to the question; otherwise, it would not exist as a question, in its present form, for no charge of insincerity lies at the door of the advocates of either side.

The real issue is: shall the board of education in any city (or in any State) be responsible for all forms of education and all types of schools that are supported by public taxation in such city (or State), or shall there be a division of responsibility, the control of so-called academic schools being assigned to the existing board of education, while special boards of control are created to take charge of certain new types of school to be established hereafter. Space is lacking to review the arguments here, but it may be submitted that the burden of proof rests on those who propose a division of responsibility. Unity of administrative control is essential in order to insure the proper correlation of all the desirable forms of activity and the elements that go to make up education for citizenship in a democracy.

The citation of the experience of boards of education in handling drawing and manual training in the public schools is not altogether relevant, and certainly not wholly convincing. In the first place, boards of education are fully as susceptible to the pressure of sane public opinion, and as well balanced, as the proposed special boards are likely to be. Second, both boards of educations and popular sentiment have changed materially since the early days of misunderstanding of the place of practical activities in an educational scheme. And, third, in direct refutation of the charge of indifference and inability, there are already at work upon programs of vocational education numbers of superintendents and boards of education with commendable achievements to their credit. It is difficult to see how the best interests of the children, and of the public, would be served by placing the direction of any type of publicly-supported school in the hands of any agency not responsible to, and under the control of, the regular board of public school trustees.

2. The interest of the city superintendent in the kinds of vocational education to receive State aid is equally clear. The details of educational legislation should not be left to laymen exclusively. Some of the critics of vocational education legislation have recently called attention to what they regard as defects in such legislation, in language that might be appropriate to the heralding of some new discovery. There is a similarity in the laws of several States in emphasizing provision for evening and continuation school classes for the training of persons *in the occupations in which they are employed,* and in minimizing or omitting provision for training persons *now employed in one occupation for efficiency in some other.*

This evident limitation in scope of legislative provision does not exist because of a conspiracy on the part of sinister ''interests'' to cripple the law by the insertion of ''jokers''; it is not due even to lack of foresight on the part of the framers of the law. Not only were those who were primarily responsible for the drafting of the laws conscious of the limitations referred to, but the enactments were purposely so drawn, and attention was publicly invited to the objects in view.

The difficulties are best illustrated by an example. A boy who is employed as a telegraph messenger, being convinced that the occupation holds no future for him, decides to become a machinist. A little reflection upon the number of thousands of hours required to train a skilled machinist, and the number of years at 4, 6 or 8 hours per week, forces the conclusion that evening or continuation school classes, for this purpose, *for a boy who is not working in a machine-shop,* do not constitute a profitable undertaking, either for the boy or the school.

It is assumed that the boy has had experience which justifies his belief in his fitness and liking for the machinist's trade. Some day it will be accepted as the business of the school to provide every pupil with sufficient variety of experience to enable him to reach a conclusion as to his own talents and aptitudes. But this is preliminary to the choice of an occupation, and preliminary to the real work of specialized vocational preparation, such as is contemplated in current legislation. The State has not as yet proposed especially to subsidize so-called prevocational education, but such failure to act does not in any way oppose or restrict community initiative in the matter.

It does not seem unreasonable, from the point of view of the State subsidy, that the boy shall secure employment as a beginner, at least, in the occupation for which he seeks further special training, in order to demonstrate: (1) that he has personal qualifications and aptitude for the work, and (2) that there is a place for him in the occupation.

Those who have given much study to the problem, and who have experience upon which to base their opinions, insist that proper training for the skilled trades cannot be given in a school in brief instalments of a few hours per week. There can be no adequate defense, therefore, for the proposal that the State shall appropriate funds to be expended by a community for a purpose which it is believed cannot be accomplished.

The community is still as free as it ever was to deal with the problem of the boy or girl employed at a ''job without a future,'' whose only hope is more education in some form. There is probably no more important question now demanding attention from the public schools, and none calling more insistently for earnest study on the part of the city superintendent.

Movement Toward the Reorganization of Secondary Education

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THERE is no single way to characterize adequately the movements for reorganizing public secondary education. Reorganization may refer to the matter of economy by the elimination of a grade; or it may refer to a change in methods of teaching, discipline and internal school management; or it may refer to a reorganization of content of instruction within the various courses; or still again it may refer to a change in administrative units within the twelve years of the public school system, such as we commonly mean to describe by the terms six-six plan or the six-three-three plan, etc. Generally current discussions, ever since the N. E. A. Standing Committee Report in 1905 on "Six Years' Course of Study," show a confusion as to the precise and distinguishable issues involved.

Omitting all consideration of the problems of the "junior-college annex" to public high schools, we may speak only of "reorganization" as it applies to the common twelve grades of public education. Within these grades any modification of the arrangement of eight grades of elementary and four of high school education represents some form of rearrangement, or "reorganization." In 1912 the U. S. Bureau reports nine types of segregated junior high schools—or combinations of grades, 5th to 10th, inclusive—and reports six combinations of higher grades representing senior high school arrangements. These and other existing forms of reorganization are indicative of unrest and experimentation. Likewise, theoretically different types of reorganization have been worked out in detail for cities of different sizes. The causes doubtless are more varied than the forms of reorganization, some of them involving educational principles, some indicating adjustments for temporary convenience, some for economy merely, some topographical in character, while some again are merely fortuitous. It may be that none of the present types of reorganization is permanently significant as a type. Some educators, indeed, claim that they are all mere temporary makeshifts, heralding some profound and revolutionary form of fundamental school reorganization which will come into existence as we revise and refine our educational ideals.

The present extent of the movement for reorganization is of interest. The U. S. Commissioner and the National Bureau are publicly committed to this reorganization. The Committee on Economy of Time of the N. E. A. incorporate the same plan as a fundamental feature of their report. The National Association of State Universities has declared in favor of the same type of reorganization. A committee of the North Central Association last year presented a similar report to that body. This was adopted. The same association enlarged its committee and instructed them to present the details of further procedure at the 1915 meeting. Ten subcommittees of the N. E. A. Commission on Reorganization of Secondary Education are likewise at work upon these details of further developments in this direction. The State of New York as a State, through its separate official curriculums for the first six grades, the intermediate grades and the high school grades, virtually declares for its adoption. Likewise the State of California. Unanimous resolutions from the State Teachers' Association of Washington, Oregon, Idaho and Montana favor specifically the six-six plan of school organization. The State of Michigan, as well as did earlier the State of North Dakota, is apparently launching a campaign for a similar State-wide readjustment, and the State Superintendent has published a pamphlet containing not only urgent advice and lists of reasons for the change, but, in addition, definitely-worked-out plans for the reorganization of some of the courses.

Paralleling these official acts from State offices come the Universities of Michigan and Chicago, with their methods of accrediting and standards of entrance requirements readjusted so as to recognize and to sanction this new type of school organization. Add to these imposing actions of university faculties the recommendations of the directors of the School Surveys of New York City, of the State of Vermont, of Portland, of Boise, of Springfield, Ill., and of Butte, Mont., and the movement assumes proportions which demand the serious attention of students and administrators of education. From the U. S. Commissioner's Report, 1913, it should also be noted that there is a movement in the parochial schools which contemplates similar reorganization steps. Among cities which have adopted some form of reorganization we may note especially Palo Alto, Los Angeles and Berkeley, Cal.; Detroit, Grand Rapids and Saginaw, Mich.; Columbus and Dayton, Ohio; Portland, Ore.; Concord, N. H.; Trenton, N. J.; Boston, Fitchburg and Newton, Mass.; Minneapolis and Cokato, Minn.; Grafton, S. D.; Ogden, Utah; Rochester and New York, N. Y.; Lewiston, Idaho; Kansas City, Wichita, Garden City, Neodosha, Hutchinson and Fredonia, Kan.; Richmond, Evansville and other cities in Indiana, and Springfield and Quincy, and, in modified form, East Aurora, Decatur and Urbana, Ill.

The writer has drawn from current literature on this subject the following reasons for the change as advanced by its advocates, and has formulated as many reasons against this reorganization, furnished by those who prefer the present elementary-high school arrangement. It is instructive to note in the present stage of development that reorganization advocates are more careful to champion some changes rather than to tie themselves down to any particular rigid form of reorganization, and that those who resist the proposals of reform are chiefly attacking only the dangerous possibilities to which it may lead, each shifting the burden of proof to the other side.

SOME OF THE ARGUMENTS FOR A REARRANGEMENT OF THE SIX UPPER GRADES IN THE PUBLIC SCHOOL SYSTEM, WITH THE FIRST SIX GRADES AN INDEPENDENT UNIT, ARE:

1. The scheme is fundamentally a plan for segregating the preadolescents and providing the unique environment required with the consequent development of the simple forms of student social activity.

2. It provides a better organization for the grouping of students with reference to their varying abilities and their physical, mental, social and moral traits at the most critical stage for this sort of diagnosis and treatment. Organized vocational guidance and placement is to be begun at this time.

3. This scheme provides for an instructorial organization with a better grade of women teachers and with more men in instructional force.

4. The teachers themselves also in this particular environment will develop better the particular traits required for this work.

5. It allows for a partial segregation of sexes with appropriate modification of teaching methods, of management and of courses.

6. The natural pedagogy of some subjects, like modern language, call for this readjustment. There is also need for an earlier correlation of English language and grammar with the foreign language and grammar, of arithmetic with elementary algebra and demonstrational geometry, and of history and geography. This beginning should be made in the segregated 7th grade, or 7th and 8th grades, or 7th, 8th and 9th grades.

7. It makes the whole school system more nearly a unit.

8. This would leave the elementary school of six grades still freer to teach easily, without the imposition of any scholastic standards the tool subjects as tools, as well as common fundamental ideals, and at the same time have most of its time and energy for the natural unrestrained and wholesome unrestricted exercises of imagination, play, construction, emotion, imitation, etc.

9. This would also leave the Senior High School proper free to develop with more distinctiveness of function genuinely differentiated curriculums of college preparatory, commercial, agricultural, manufacturing and the domestic science, sewing and homemaking arts.

10. The six-three-three plan makes possible a richer variety and greater number of courses for these children from twelve to fifteen years of age; and with this larger number of courses, most important of all, it allows at a better time ~~that~~ the first year of high school for a partial differentiation

than

of curriculums. (See the Portland, New York, Springfield and Butte Surveys.)

11. The pupils will thus, by semi or wholly departmental organization of instruction, be promoted by subject, get the benefit of contact with a special junior-high-school type of teacher, their individualities being thus better rounded out and developed, preserved from narrowness and uniformity—or conformity to one teacher's moulding.

12. The reorganization will provide such vocational insights and inducements that a larger per cent. will remain in school an additional year. It also postpones for one year the transportation difficulties of high school attendance, time, carfare and other obstacles.

13. It is cheaper, on same basis as ordinary 7th and 8th grade work (see Hanus' New York Report and Bulletin by Superintendent Rundlett of Concord, N. H.); or, if adequate, it makes for a better adjustment of per capita costs. (See E. H. Holland in Superintendent's Report of Louisville, 1912, and Francis, Portland Survey; Elementary, $40; Junior High School, $60; Senior High School, $80.) A town can often economically make over with proper equipment a grammar school or old high school building. (See Francis, Portland Survey, pp. 190-1.)

14. The reorganization provides for better and more continuous use of equipments for domestic science, manual training and vocational courses, with a better set of instructors who can, when necessary, alternate with the different classes. (Springfield Survey.)

15. It becomes possible for bright pupils to complete their public school work beyond the sixth grade in five instead of six years, whereas it is not often possible to do four years' work in three years under the present eight-four plan.

16. The "cycle" arrangement in the secondary school system of France and a similar arrangement of work in German secondary schools afford interesting analogies to the reorganization under discussion.

SOME OF THE ARGUMENTS AGAINST ANY REARRANGEMENT OF GRADES ARE:

1. In general, all the plans increase the difficulties of school organization and administration.

2. The child of this age will be confused in adjusting himself to the individual peculiarities of so many teachers.

3. More difficulty in placing responsibility for poor teaching, which will affect work in all subjects.

4. There will be much confusion incident to changing rooms.

5. Teachers of one subject become narrowed.

6. We can't make a thoroughgoing rearrangement and reorganization with mediocre teachers. Such intermediate teachers must have preparation of at least high school grade, and are not procurable.

7. The scheme requires specially gifted and trained principals who are not available.

8. The elementary school principals will object to taking away the "pride and inspiration of their schools." See also the high school principals, their numbers.

9. The upper-grade teachers who can't be promoted to this intermediate type of teaching, and who hence must be demoted to lower grades, and probably lower salary, if retained will strenuously oppose this "*injustice*" to them.

10. Inconvenienced parents will object.

11. It can't be accomplished in the smaller towns and cities.

12. It is merely a different name for essentially the same operation. There is no real change in educational principles; all good effects may be secured by *improving the present eight-four plan* of organization.

13. There is grave danger of losing the essentially personal influence of the teacher in this proposed distribution of personal responsibility among so many teachers.

14. There is equal danger that the many departmental teachers, ignorant of the child's all-day-round of school duties, will overwork the pupils by the very natural, practically inevitable over-emphasis on particular subjects.

15. It may be well also that the child's age advancement accords with our present grade advancements. It is likely

that it is not desirable to save a year or to change the content and method of work and discipline. An enforced rate of intellectual progress and more complicated type of intellectual exercise, which the intermediate or junior high school scheme requires, may be against the fundamental law of the child's rate of maturing. The 7th and 8th grade stages may be simply plateau levels in the individual's life, nodes, which cannot be done away with nor transformed by pedagogic device or administrative manipulation.

16. The proposed plan brings in the school lunch problem.

17. It tends to underestimate the necessary amount of drill work and acquisition of common ideas which the present 8 grade organization and 8 grade course of study aim to secure. secure.

SUMMARY.

As to evidence of success or failure of these experiments with reorganization, we have as yet little that could be called proof either way. Superintendent Bunker has carefully enumerated his initial obstacles encountered in Berkeley during the first two years, and has told how they all were gradually overcome. Superintendent Rundlett of Concord, N. H., has demonstrated by comparative statistics how average marks of whole classes were raised with the adoption and continuation of the scheme; how something like 33 per cent. more actual ground was covered during an identical period in such subjects as Latin, history and mathematics, and how the scheme proved to be considerably cheaper for Concord, N. H. Superintendent Francis of Los Angeles has shown us just how and how much it costs to transform an old grade building into a model junior high school. Professor Hanus has, as Director of the New York Survey, told that city how much cheaper the junior high school organization will be to the city. Superintendent Study of Neodesha has reported figures showing striking increase in enrollment and in promotion rates, decrease in elimination, and greater interest of the community in the school work following the adoption of the junior-senior high school arrangement. Superintendent Giles of Richmond, Ind., reports the good effect on general marks in all subjects of those boys who in junior high school were assigned to a partially differentiated curriculum. He reports also a system of advice and guidance, through committees of junior high school teachers, which seems to him to be typical of a sort of individual work not so easily done under the old form of organization. A thirty-five piece orchestra is, he thinks, typical of forms of junior high school activities which may be better developed under such a system of segregating the 7th, 8th and 9th grades.

The writer has found no evidence that any of these school experimenters would be willing to return to the old system. While he has found no reliable and adequate proof with which to convince those temperamentally inclined to doubt the promise in all these new plans of school administration, he has the impression that demonstrations and proofs will be forthcoming.

A Study of the Vocational Guidance of Grammar School Pupils*

Ellen M. Greany

THAT the average grammar school graduate of a generation ago should have a life-career motive was unthinkable alike to parents and to educators. There was, of course, the rare musical genius, and the mathematical prodigy, whose abilities it was clearly advantageous to foster, but for the normal child who exhibited no marked talents, why consider a matter so remote as a life career? It could be decided upon at the close of his high school course, or, if he were going on to college, let the decision be put off still longer. If he belonged to the great army of those to whom leaving the grammar school meant going to work, then he must find a job. Very likely, he was too young to begin to learn a trade. Nobody had ever analyzed with him seriously his capabilities or his limitations, nor had he ever received any systematic or definite information concerning the industrial opportunities about him. To go to work did not necessarily mean to take up a permanent occupation. It merely meant to get a job. If he differentiated among jobs at all, it was probable that he had a vague hope that the one which fell to his lot should not be too strenuous or too poorly paid.

But the growth of the vocational guidance movement, and the increasing specialization of our secondary school and college courses, have called the attention of those interested in child-welfare to the tremendous waste of human talent and economic productivity, which is traceable to the lack of early-conceived life motive.

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*This work was done in a graduate Seminary in Elementary Education in Harvard University and completed as partial fulfillment of requirements for master's degree at Tufts College.

The philosophy which underlies the vocational guidance movement may be briefly stated as follows:

There is marked variety in inborn gifts.

The greatest happiness and the highest efficiency result from the exercise of native talents in the right environment.

For the great masses of men, life is organized around work. ''Nothing,'' says Marshall, ''influences a man so much as the work he does, unless it be his religion.''

Such a philosophy focuses attention upon the seriousness of the blind-alley trades. It points out the significance of a study of occupational classification. It emphasizes the importance of wide vocational information. It wants education and industry to bring out the best in every individual. It calls upon the individual for self-analysis. It is vitally interested in equality of opportunity and diffusion of education. It is directed against every form of maladjustment, and its goal is well-rounded, fully-developed manhood and womanhood.

If we accept the premises of vocational guidance, we must be deeply concerned with the job which the child takes when he leaves the grammar shool. But the higher school which his classmate chooses is of no less interest to us. Our high schools and the courses which they offer are yearly becoming more highly specialized. The ''general course'' is rapidly becoming obsolete. One must know when he enters the high school whether he is headed for college, or the normal school, or a business career, or stenography, or mechanical work, or what not. This means that he must know his tastes and capabilities, and the general requirements of the work which he hopes to do. Otherwise, multitudes of our boys and girls will continue as they have in the past to choose their high school for such trivial reasons as ''because so and so is going there,'' ''because it has a good track team,'' ''because they say the lessons are easy,'' etc. Our high schools will continue to cope unsuccessfully with misfits. The boy who would have been interested and proficient in the industrial work of the Mechanic Arts High School will be found struggling unsuccessfully with the business courses of the High School of Commerce. The girl who would have made a capable and artistic milliner will be a dull and unsatisfactory member of the class in stenography.

Both children will very likely drop out of the high school in a few months and join the 30 per cent. of our first-year high school pupils who annually recruit the ranks of untrained juvenile workers.

It seems, therefore, that the closing year of the grammar school course is the most advantageous time for the boy or girl to decide upon a life-career. But the real initiative in the choice must come from the child himself. There arises the tremendously vital question, Has the child of age and capacity to graduate from our grammar schools any permanent interest? Is he capable of visualizing his occupational future? Can he be helped to study himself, to study the occupations about him, and thus be led to an intelligent, discriminating choice? It is possible to reduce the theory of vocational guidance to a practical working program, so that it shall be less vague to the teacher and more valuable to the pupil?

In the hope of getting some reliable answers to the above questions, an investigation was made in five graduating classes of four Massachusetts city schools in 1913. The purpose of the investigation was outlined as follows:

1. To discover whether there exists in the minds of certain groups of eighth grade elementary school pupils the vision of a vocation.

2. To find how this vocational vision has been acquired, what is known of the avenues of entrance to the chosen career, the characteristics necessary to success in it, its limitations and its rewards.

3. To show increased tenacity of purpose, or the awakening and development of a visualized vocational purpose, as brought about through a course of systematic, expository instruction in vocational and educational opportunities.

The procedure of the investigation was as follows:

Five eighth grade classes were selected, where the heredity, environmental influence, economic conditions, social standing and probable ideals of the pupils appeared to be somewhat similar. These classes were two in the Hugh O'Brien School of Roxbury, and one each in the Kelly and Houghton Schools of Cambridge, and the Bingham School of Somerville. There were 42 boys and 45 girls in the first named school, and a total of 34 boys and 57 girls in the three other classes. During the last week of March and the first week of April, 1913, all five classes were given a forty-minute preliminary test. After a brief explanation to the children telling them that this was not a school examination, but merely an inquiry which was made by people who were interested in them, the following questions were put, one at a time, on the blackboard.

1. How do you intend to earn your living when you are all through going to school?
2. How do your parents wish you to earn your living?
3. (a) Have you any relatives or friends who are interested in how you are going to earn your living?
   (b) If so, what do they wish you to do?
4. (a) Why have you decided to earn your living in this way?
   (b) Did you make your choice from something you have read?
   (c) Do you know anyone who does the kind of work you have chosen?
5. (a) What education do you need to fit yourself for the kind of work you intend to do?
   (b) How much longer will you have to go to school?
   (c) If you need to go to the high school, which is the best one to go to?
6. How much will it cost your parents to fit you for the kind of work you are going to do?
7. What kind of a boy (or girl) would be most successful in the kind of work you are going to do?
8. (a) Do you expect to work very hard?
   (b) Is it a healthful occupation?
   (c) How many hours a day do you expect to work?
9. How much pay do you expect to get each week of the first year that you work?
10. (a) What chance do you think there is to get more pay as you grow older?
    (b) What is the highest pay you can probably ever get?

A series of fifteen lessons was then planned for the children of the Hugh O'Brien School who had taken the preliminary test. The other three classes were to remain uninstructed. The first three lessons were given to boys and girls together, the remaining twelve were given to them separately. The subjects of the lessons were as follows:

Lesson 1—General Classification of Occupations.
Lesson 2—Opportunities for Boys and Girls from 14 to 16 years old.
Lesson 3—Opportunities for Boys and Girls from 16 to 20 years old.
Lesson 4—The Doctor (Boys). The Teacher (Girls).
Lesson 5—Civil Service (Boys). The Stenographer (Girls).
Lesson 6—The Printer (Boys). The Telephone Operator (Girls).
Lesson 7—The Building Trades (Boys). The Trained Nurse (Girls).
Lesson 8—The Business Man (Boys). The Dressmaker (Girls), The Milliner (Girls).
Lesson 9—The Machinist (Boys). The Saleswoman (Girls).

The aim of the first lesson was to give the children a general survey of occupations and thus call their attention to the many varieties of work from which it may be possible for a youth to choose. As the working opportunities for children and adults necessarily differ, it was thought well to make the second and third lessons a survey of the occupations usually open to those in adolescence. An attempt was made to select for the remaining lessons occupations not only representative of the different groups given in the general classification, but also those concerning which fairly reliable information was accessible, and which appeared to be within the realm of the interests and possible future choice of the children. As only nine lessons could be given to the boys and girls before the close of school, the choice of subjects was, of course, further limited.

The lessons were given on nine successive Tuesday mornings, beginning on April 15th and ending on June 10th. They were forty minutes in length, and followed these outlines:

Lesson I.

Kinds of Work.

I. Brain and Hand Workers.
  1. Professional Workers.
  2. Public Service Workers.
    a. Officials of the Federal Government.
    Officials of the State Government.
    Officials of the County Government.
    Officials of the City Government.
    Officials of the Town Government.
    b. Officials of the Army and Navy.
  3. Managerial and Commercial Workers.
  4. Personal Service Workers.

II. Hand and Brain Workers.
  1. Skilled Workers.
  2. Semi-skilled Workers.
  3. Unskilled Workers.

This outline was filled out by the pupils, aided by the questions and suggestions of the teacher.

Lesson II.

1. General Opportunities for Boys and Girls from 14 to 16 years old.
2. Reasons why these opportunities are so few.
3. Reasons why some employers are willing to take children between 14 and 16 years old.
4. General Health Conditions in these occupations.
  1. Compared with school conditions.
  2. Dangerous occupations.
5. Beginning Wage.
6. Future Prospects.
  a. As to wage.
  b. As to increase of skill.
  c. As to mental growth.

Lesson III.

1. Opportunities between 14-16 }
   Opportunities between 16-20 } compared.
2. Reasons why 16-20 opportunities are greater.
3. Amount and kind of education needed for the various groups of occupations given in the general classification.

Lists of industries in the neighborhood of the Hugh O'Brien School discovered and reported by the children.

(Not directly related to the subject of the lesson.)

Lessons 4 to 9 were developed according to the following topics:

1. The Occupation.
2. General Characteristics needed for success in this occupation.
3. Education needed.
4. Age of Entrance to the Occupation.
5. Time it takes for Training.
6. Cost of Training.
7. Chance to get training in Boston.
8. Wages and Demand for Workers.
   a. Beginning Wage.
   b. Average Adult Wage.
9. Health Conditions.
   a. Hours.
   b. Strain.
10. Is it a Seasonal Occupation?
11. Chance for Promotion.
12. Value to Society.
13. Relative Desirability.

The last topic was not added until Lesson VI, when the preceding lessons had established some definite data which might be used for profitable comparison.

On the day following the teaching the children had thirty minutes to write what they remembered of what had been talked over in the lessons. No assistance and no topics were given them, the object being to test the reaction rather than to get a finished composition.

The synopsis which follows records the resultant reaction on the matter presented in the last twelve lessons:

PERCENTAGE OF REACTION ON TOPICS TREATED IN LESSONS.

Boys' Lessons.

		4	5	6	7	8	9
		The Doctor.	Civil Service.	The Printer.	Building Trades.	The Business Man.	The Machinist.
		Per cent.					
1.	The Occupation and Sub. Div....	48.7	78.5	81.3	100.	48.7	36.8
2.	Characteristics	100.	64.2	72.	63.4	90.2	60.5
3.	Education Needed..............	70.7	85.7	60.4	58.5	87.8	68.3
4.	Age of Entrance...............	65.8	54.9	48.9	24.3	31.7	60.5
5.	Time it Takes to Learn.........	49.8	9.5	34.8	34.1	7.3	50.
6.	Cost of Learning...............	7.3	2.3	16.3	11.5	2.4	15.7
7.	Chance in Boston..............	95.1	9.5	34.8	36.5	51.2	71.
8.	Wages	34.1	33.3	67.4	82.9	46.3	81.5
9.	Health Condition...............	.0	14.2	55.8	75.5	41.4	65.7
10.	Seasonal	.0	9.5	27.9	48.7	41.4	18.3
11.	Chance for Promotion..........	39.	28.5	34.8	39.	46.3	44.7
12.	Value to Society...............	70.7	21.4	39.5	41.4	14.6	50.
13.	Relative Desirability...........	....	....	16.3	41.4	58.5	42.1

Girls' Lessons.

		4	5	6	7	8	9
		The Teacher.	The Stenographer.	The Telephone Operator.	The Nurse.	The Dressmaker,	Milliner. The Saleswoman.
		Per cent.					
1.	The Occupation and Sub. Div....	77.5	66.6	80.4	85.	88.3	88.3
2.	Characteristics	100.	89.5	95.6	100.	100.	100.
3.	Education Needed..............	62.5	58.3	78.2	84.7	83.7	86.
4.	Age of Entrance...............	50.	52.	69.5	63.	62.7	76.7
5.	Time it Takes to Learn.........	66.6	33.3	80.	73.9	67.4	27.8
6.	Cost of Learning...............	8.3	58.3	91.3	58.6	18.6	39.5
7.	Chance in Boston..............	91.6	91.6	65.2	30.4	90.6	25.5
8.	Wages	62.5	93.7	80.4	89.1	88.3	100.
9.	Health Condition...............	33.3	64.5	76.	76.	55.8	76.7
10.	Seasonal	.0	10.4	26.	23.9	53.4	46.5
11.	Chance for Promotion..........	6.2	58.3	71.7	71.7	62.7	81.3
12.	Value to Society...............	50.	18.7	36.9	50.	18.6	30.2
13.	Relative Desirability...........	....	....	50.	67.4	62.7	69.7

As the percentages indicate, the reports were, on the whole, very satisfactory. They gave abundant evidence that the subject-matter is within the scope of the interest and understanding of eighth grade pupils.

In the last school week of June both the instructed and the uninstructed classes were given the same test as in March, with the addition of the following question:

11. a. Have you thought over any occupation and then decided not to take it up?
    b. What are the reasons why you decided not to take it up?

After the completion of this test, the results of both this and the March test were carefully examined. The following table indicates the general classes of occupations into which the children's choice fell:

MARCH.

	Instructed.						Uninstructed.					
			No.		%				No.		%	
	No.	%	B.	G.	B.	G.	No.	%	B.	G.	B.	G.
Professions	12	13.8	5	7	5.8	8.1	15	16.5	6	9	6.7	9.9
Teachers	8	9.2	1	7	1.1	8.1	8	8.8	0	8	0	8.8
Civil Service	1	1.1	1	0	1.1	0	4	4.4	4	0	4.4	0
Business	5	5.8	4	1	4.6	1.1	6	6.6	4	2	4.4	2.2
Commercial	19	21.9	2	17	2.3	19.5	27	29.7	2	25	2.2	27.4
Stenographers	12	13.8	0	12	0	13.8	9	9.9	0	9	0	9.9
Bookkeepers	4	4.6	0	4	0	4.6	6	6.6	0	6	0	6.7
Trades	18	20.6	13	5	14.9	5.8	13	14.2	11	2	12.0	2.2
D. K. (don't know)	27	31.0	14	13	16.1	14.9	12	13.2	4	8	4.4	8.8
Miscellaneous	5	5.8	3	2	3.4	2.3	14	15.4	3	11	3.3	12.0
Army	1	1.1	1	0	1.1	0	0	0	0	0	0	0
Dancer	0	0	0	0	0	0	1	1.1	0	0	0	1.1
Farmer	0	0	0	0	0	0	1	1.1	1	0	1.1	0
Hairdresser	0	0	0	0	0	0	0	0	0	0	0	0
Musicians	1	1.1	1	0	1.1	0	3	3.3	2	1	2.2	1.1
Music Teacher	0	0	0	0	0	0	4	4.4	0	4	0	4.4
Nurse	0	0	0	0	0	0	1	1.1	0	1	0	1.1
Private Secys.	0	0	0	0	0	0	0	0	0	0	0	0
Proofreader	0	0	0	0	0	0	1	1.1	0	1	0	1.1
Sailor	1	1.1	1	0	1.1	0	0	0	0	0	0	0
Tel. Operator	2	2.3	0	2	0	2.3	3	3.3	0	3	0	3.3
Totals	87	100.0	42	45	48.2	51.7	91	100.0	34	57	37.4	62.6

JUNE.

	Instructed.						Uninstructed.					
			No.		%				No.		%	
	No.	%	B.	G.	B.	G.	No.	%	B.	G.	B.	G.
Professions	14	16.1	5	9	5.8	10.3	6	6.7	2	4	2.2	4.4
Teachers	10	11.6	1	9	1.1	10.3	4	4.4	0	4	0	4.4
Civil Service	1	1.1	1	0	1.0	0	2	2.2	2	0	2.2	0
Business	11	12.6	10	1	11.6	1.1	5	5.4	3	2	3.3	2.2
Commercial	21	24.1	1	20	1.1	23.0	28	30.7	1	27	1.1	29.6
Stenographers	14	16.1	0	14	0	16.1	12	13.2	0	12	0	13.2
Bookkeepers	4	4.6	0	4	0	4.6	6	6.7	0	6	0	6.6
Trades	27	31.0	20	7	22.9	8.1	13	14.2	11	2	12.0	2.2
D. K. (don't know)	7	8.0	3	4	3.4	4.6	22	24.2	14	8	15.4	8.8
Miscellaneous	6	6.9	2	4	2.3	4.6	15	16.5	1	14	1.1	15.4
Army	0	0	0	0	0	0	0	0	0	0	0	0
Dancer	0	0	0	0	0	0	0	0	0	0	0	0
Farmer	0	0	0	0	0	0	0	0	0	0	0	0
Hairdresser	0	0	0	0	0	0	1	1.1	0	1	0	1.1
Musicians	1	1.1	1	0	1.1	0	2	2.2	1	1	1.1	1.1
Music Teacher	0	0	0	0	0	0	5	5.4	0	5	0	5.4
Nurse	3	3.4	0	3	0	3.4	1	1.1	0	1	0	1.1
Private Secys.	0	0	0	0	0	0	2	2.2	0	2	0	2.2
Proofreader	0	0	0	0	0	0	1	1.1	0	1	0	1.1
Sailor	1	1.1	1	0	1.1	0	0	0	0	0	0	0
Tel. Operator	1	1.1	0	1	0	1.1	3	3.3	0	3	0	3.3
Totals	87	100.0	42	45	48.2	51.8	91	99.8	34	57	37.4	62.6

A glance at the list of occupations chosen by the two groups in March shows that the percentages of those whose choice lay in the professions, business, commercial work and trade were approximately even enough to indicate that the vocational desires of these children were fairly similar, and hence to warrant the confidence that the groups had not been unwisely chosen for comparison.

It will also be noted that in the March test 31 per cent. of those to be instructed answered that they did not know what their future occupation was to be. Thirteen and two-tenths per cent. of the group which was not to be instructed gave the same answer. In the June test the percentage of "don't knows" in the first group diminished to 8, and, rather singularly, rose to 22 in the second group.

A further comparison of the results of the tests points out that there is for the instructed classes in June a slight growth in the number of those who proposed to enter the professions and commercial work, and a relatively large increase in the number of those who chose business and trades. Seventy and one-tenth per cent. of the instructed children gave as their chosen occupations those which had been the subjects of lessons in school. In the uninstructed group we find a slight increase in the number of those who chose commercial work and a relatively large decline among those who chose professions. The number of those choosing business and the trades remained about the same.

Question 2 brought out the information in the March test that 42.5 per cent. of the children to be instructed and 18.7 per cent. of the parallel group did not know how their parents wished them to earn their living. The figures changed in June to 15 per cent. and 22 per cent., respectively. It is not to be inferred, however, that the parents were altogether uninterested. It is, rather, that in the usual fashion of the juvenile American, the child made the choice, and the parent did not, as a rule, oppose it, for 39.2 per cent. of the first group and 69.2 per cent. of the second said in March that their choice was unhampered by the parents. In June 58.6 per cent. and 54.9 per cent. gave a similar answer.

To Question 3—(a), "Have you any relatives or friends who are interested in how your are going to earn your living?" 69.7 per cent. and 44 per cent. replied that their relatives were not interested. The figures given in June were 52.9 per cent. and 50.5 per cent.

To Question 4—(a), "Why have you decided to earn your living in this way?" 38 per cent. of the first group and 11 per cent. of the second replied in March that they did not know. In June 5.7 per cent. and 28.6 per cent. gave the same answer.

Question 4—(b), "Did you make your choice from something you have read?" brought affirmative answers as follows:

Instructed.		Uninstructed.	
March.	June.	March.	June.
5.7	8.0	7.7	4.4

Question 4—(c), "Do you know anyone who does the kind of work you have chosen?" received the following percentages of affirmative replies:

Instructed.		Uninstructed.	
March.	June.	March.	June.
41.4	71.3	73.6	57.1

In June 38 per cent. of the instructed children made the unsolicited reply that they had chosen an occupation because they decided that they liked it when they had talked it over in school.

The answers to Question 5—(a), "What education do you need to fit yourself for the kind of work you intend to do?" (b) "How much longer will you have to go to school?" (c) "If you need to go to the high school, which the best one to go to?" divided themselves as follows:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
Wrong idea of the education necessary:	11.5%	5.7%	6.6%	8.8%
Right idea of the education necessary:	49.5%	80.5%	51.6%	46.1%
Did not know what education is necessary:	6.9%	4.6%	20.9%	12.1%
Thought no more education needed:	1.1%	1.1%	7.7%	8.8%
Made no choice of occupation:	31.1%	8.1%	13.2%	24.2%

Question 6, "How much will it cost your parents to fit you for the kind of work you are going to do?" was evidently interpreted quite generally by the children as referring to the cost of the necessary education. The answers were these:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
"Don't know" the cost:	57.4%	14.9%	40.6%	40.6%
Will cost nothing:	2.3%	54%	14.3%	17.6%
Reasonable estimate of the cost:	5.8%	18.4%	13.2%	11%
Unreasonable estimate of the cost:	3.4%	4.6%	18.7%	6.6%
Made no choice of occupation:	31.3%	8.1%	13.2%	24.2%

Question 7 asked "What kind of a boy (or girl) would be most successful in the kind of work you are going to do?" The sum total of the qualities enumerated in March by the classes to be instructed was nineteen, the parallel group gave twenty. Only two qualities were agreed upon by more than 10 per cent. of the first group; they were "intelligent," given by 10.3 per cent., and "smart," given by 14.9 per cent.; 27.5 per cent. of the children who were to remain uninstructed wrote "application," 25.2 per cent. "honest" and 17.6 per cent. "neat and clean." In June also these same qualities were the ones most frequently cited, but the percentages diminished to 16.5 per cent., 22 per cent. and 9.9 per cent., respectively. In the June answers of the instructed group "education" was given as a desirable quality by 18.5 per cent., "good sight and hearing" by 16.1 per cent., "health and strength" by 32.1 per cent., "intelligence" by 19.5 per cent., "neat and clean" by 28.7 per cent., "quick" by 42.5 per cent. and "smart" by 22.9 per cent.

To Question 8—(a), "Do you expect to work very hard?" the answers were as follows:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
"Don't know:"	11.5%	8.1%	6.6%	13.2%
"Expect to work hard:"	24.1%	36.7%	39.5%	23.1%
"Do not expect to work hard:"	33.3%	47.1%	40.7%	39.5%

In March 64.3 per cent. of the group to be instructed answered to (b), "Is it a healthful occupation?" "Yes," but gave no reason for the reply. In June all but 21.8 per cent. gave reasons why they considered the occupation healthful. In the uninstructed classes 83.5 per cent, in March and 71.4 per cent. in June said the occupation was healthful, but failed to tell why.

Question 8—(c) asked "How many hours a day to you expect to work?" The answers were these:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
"Don't know" the hours	14.9%	4.6%	8.8%	12.1%
Reasonable estimate	45.9%	81.6%	70.3%	59.3%
Unreasonable estimate	8.1%	5.7%	7.7%	4.4%

The answers to Question 9, "How much pay do you expect to get each week of the first year that you work?" distributed themselves as follows:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
"Don't know" the wages	19.5%	5.7%	16.5%	23.1%
Reasonable estimate	25.3%	65.5%	37.4%	28.5%
Unreasonable estimate	24.1%	20.7%	32.9%	24.2%

Question 10—(a), "What chance do you think there is to get more pay as you grow older?" aimed to bring out the children's ideas of the opportunity for promotion in their chosen occupations. The answers divided readily into the following groups:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
"I don't know"	17.2%	8.1%	28.6%	29.7%
"A good chance"	17.2%	14.8%	8.8%	16.4%
"A fair chance"	34.5%	66.7%	49.4%	29.7%
"No chance"	......	2.3%	......	......

Question 10—(b), "What is the highest pay you can probably ever get?" brought answers as follows:

	Instructed.		Uninstructed.	
	March.	June.	March.	June.
"I don't know"	18.4%	10.3%	26.4%	29.7%
Reasonable estimate	41.3%	62.1%	41.7%	32.9%
Unreasonable estimate	9.2%	19.5%	18.7%	13.2%

The question numbered 11—(a), which was given in the June test only, "Have you thought over any occupations and then decided not to take them up?" received the following replies:

	Instructed.	Uninstructed.
Thought over and rejected no occupation	23.0%	54.9%
Thought over and rejected one occupation	25.3%	40.7%
Thought over and rejected two occupations	19.5%	2.2%
Thought over and rejected three occupations	9.2%	......
Thought over and rejected four occupations	8.1%	......
Thought over and rejected five occupations	3.4%	2.2%
Thought over no occupation and held to first choice	11.5%	42.8%

The answers to Question 11—(b), "What are the reasons why you decided not to take it up?" distributed themselves thus:

	Instructed.	Uninstructed.
Intelligent reasons given by	67.8%	15.4%
Unintelligent reasons given by	13.8%	7.7%
No reason given by	6.9%	34.1%
Thought over no occupation, but held to first choice	11.5%	42.8%

That the instructed classes show in June a substantial growth in intelligence regarding occupations in general, and their own vocational futures in particular, there can be no doubt. There is indication of an awakened vocational vision in some, in others tenacity of purpose. There is evidence that practically all have been helped in some degree to a better understanding of the qualifications which the worker must bring to his task, the conditions which are peculiar to it, the education which will best train for it, the elements which make for success in it, and its comparative desirability. This is the more significant when the meagerness of the time spent in actual instruction is taken into account. The uninstructed classes indicate, in general, a deterioration rather than a growth of interest and intelligence in their vocational aims. While growth without instruction was hardly to be looked for, deterioration is not difficult to explain to those who are familiar with the conditions which are likely to obtain in graduating classes during the last days of a school year.

A general description of the instructed children and a brief account of some of the experiences of the teacher who conducted the investigation may be of interest.

The children live in a district in Roxbury, where most of the houses are flats. The majority are of Irish or Irish-American parentage. There are perhaps 8 per cent. Jews and Italians. The fathers are teamsters, motormen, carpenters, ironworkers, laborers, piano factory employes, etc. The children come to school clean and neatly dressed. They are of the average capacity that might be expected from such environment; it is be doubted if an expert would select from among them any that are either supernormal or subnormal. With a few exceptions, there seems to have been evidenced among them no very great interest in books or reading, and no very pronounced aptitudes.

Throughout the series of lessons on occupations they displayed much interest. Many showed an unexpected knowledge of hours, wages, health conditions and the desirable and undesirable features of certain kinds of work. The active part taken in the lessons by the older and commonly considered duller children was especially noticeable.

In June, 1914, the year following the graduation from grammar school of these pupils, a questionaire was sent to each child who had taken the March and June tests. These are the questions asked of the children who were at school:

1. Do you remember answering some questions last year about the kind of work you would like to do when you were through going to school?
2. What occupation did you then say you were going to take up?
3. Have you changed your mind about the kind of work you would like to do?
4. If you have changed your mind, what do you now think you would like to do?
5. If you have changed your mind, what were your reasons for doing so?
6. What school are you attending now?
7. What courses are you taking?
8. Do you think that what you are studying now will help you in the work you have chosen?

The first five above questions were also asked of the children who had gone to work, and the following questions were added:

6. Give the names and addresses of the places where you have worked.
7. Where are you working now?
8. What kind of work do you do?
9. Do you like your work?
10. What pay did you get at first?
11. What pay do you get now?
12. What are the chances for promotion?
13. Do you go to Evening School?
14. How do you think what you are learning there will help you with your work?

Answers were received from seventy-six of the instructed children and from sixty-three of the uninstructed. As fifteen of the first group were children who had failed of graduation and were still in the grammar school, it was thought well not to include them in the comparisons which follow.

To Question 1, ''Do you remember answering some questions last year about the kind of work you would like to do when you were through going to school?'' all but one, an instructed girl, replied in the affirmative. Eighty-five and two-tenths per cent. of the instructed children and 82.5 per cent. of the uninstructed answered correctly Question 2, ''What occupation did you then say you were going to take up?''

The percentages of those going into the different groups of occupations and the various changes may be seen in the following table:

MARCH, 1913.

	Instructed.						Uninstructed.					
			No.		%				No.		%	
Percentages of those going into	No.	%	B.	G.	B.	G.	No.	%	B.	G.	B.	G.
Professions	10	16.4	5	5	8.2	8.2	12	19.0	4	8	6.3	12.7
Teachers	6	9.8	1	5	1.6	8.2	8	12.7	0	8	0	12.7
Civil Service	1	1.6	1	0	1.6	0	3	4.8	3	0	4.8	0
Business	3	4.9	3	0	4.9	0	3	4.8	2	1	3.2	1.6
Commercial	16	26.2	2	14	3.3	22.9	21	33.3	1	20	1.6	31.7
Stenographers	9	14.8	0	9	0	14.8	8	12.7	0	8	0	12.7
Bookkeepers	4	6.5	1	3	1.6	5.9	5	7.9	0	5	0	7.9
Trades	11	18.0	8	3	13.1	4.9	7	11.1	7	0	11.1	0
Don't Know	17	27.9	8	9	13.1	14.8	10	15.9	4	6	6.4	9.5
Miscellaneous	3	4.9	1	2	1.6	3.3	7	11.1	0	7	0	11.1
Nurse	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Tel. Operator	2	3.3	0	2	0	3.3	1	1.6	0	1	0	1.6
Proofreader	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Soldier	1	1.6	1	0	1.6	0	0	0	0	0	0	0
Hairdresser	0	0	0	0	0	0	0	0	0	0	0	0
Music Teacher	0	0	0	0	0	0	3	4.8	0	3	0	4.8
Private Secretaries	0	0	0	0	0	0	0	0	0	0	0	0
Factory	0	0	0	0	0	0	0	0	0	0	0	0
Dancer	0	0	0	0	0	0	0	0	0	0	0	0
Mov. Pict. Actress	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Artist	0	0	0	0	0	0	0	0	0	0	0	0

JUNE, 1913.

	Instructed.						Uninstructed.					
			No.		%				No.		%	
Percentages of those going into	No.	%	B.	G.	B.	G.	No.	%	B.	G.	B.	G.
Professions	13	21.3	5	8	8.2	13.2	4	6.4	0	4	0	6.4
Teachers	9	14.8	1	8	1.6	13.2	4	6.4	0	4	0	6.4
Civil Service	1	1.6	1	0	1.6	0	1	1.6	1	0	1.6	0
Business	9	14.8	8	1	13.2	1.6	4	6.4	2	2	3.2	3.2
Commercial	16	26.2	0	16	0	26.2	23	36.5	2	21	3.2	33.3
Stenographers	10	16.4	0	10	0	15.4	10	15.9	0	10	0	15.9
Bookkeepers	4	6.5	0	4	0	6.5	5	7.9	0	5	0	7.9
Trades	16	26.2	12	4	19.7	6.5	9	14.3	8	1	12.7	1.6
Don't Know	4	6.6	2	2	3.3	3.3	12	19.0	8	4	12.7	6.3
Miscellaneous	2	3.2	0	2	0	3.2	10	15.9	0	10	0	15.9
Nurse	1	1.6	0	1	0	1.6	1	1.6	0	1	0	1.6
Tel. Operator	1	1.6	0	1	0	1.6	1	1.6	0	1	0	1.6
Proofreader	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Soldier	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Hairdresser	0	0	0	0	0	0	4	6.4	0	4	0	6.4
Music Teacher	0	0	0	0	0	0	0	0	0	0	0	0
Private Secretaries	0	0	0	0	0	0	2	3.2	0	2	0	3.2
Factory	0	0	0	0	0	0	0	0	0	0	0	0
Dancer	0	0	0	0	0	0	0	0	0	0	0	0
Mov. Pict. Actress	0	0	0	0	0	0	0	0	0	0	0	0
Artist	0	0	0	0	0	0	0	0	0	0	0	0

JULY, 1914.

Percentages of those going into	Instructed.						Uninstructed.					
			No.		%				No.		%	
	No.	%	B.	G.	B.	G.	No.	%	B.	G.	B.	G.
Professions	10	16.4	3	7	4.9	11.5	5	7.9	2	3	3.1	4.8
Teachers	8	13.1	1	7	1.6	11.5	3	4.8	0	3	0	4.8
Civil Service	2	3.2	2	0	3.2	0	3	4.8	3	0	4.8	0
Business	10	16.4	9	1	14.8	1.6	3	4.8	1	2	1.6	3.2
Commercial	18	29.5	2	16	3.3	26.2	30	47.6	2	28	3.2	44.4
Stenographers	10	16.4	0	10	0	16.4	15	23.8	2	13	3.2	20.6
Bookkeepers	8	13.1	2	6	3.2	9.9	11	17.5	0	11	0	17.5
Trades	18	29.5	11	7	18.0	11.5	12	19.1	11	1	17.5	1.6
Don't Know	1	1.6	1	0	1.6	0	2	3.2	1	1	1.6	1.6
Miscellaneous	2	3.2	0	2	0	3.2	8	12.6	1	7	1.6	11.0
Nurse	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Tel. Operator	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Proofreader	0	0	0	0	0	0	0	0	0	0	0	0
Soldier	0	0	0	0	0	0	0	0	0	0	0	0
Hairdresser	0	0	0	0	0	0	0	0	0	0	0	0
Music Teacher	0	0	0	0	0	0	0	0	0	0	0	0
Private Secretaries.	0	0	0	0	0	0	1	1.6	0	1	0	1.6
Factory	1	1.6	0	1	0	1.6	2	3.2	0	2	0	3.2
Dancer	0	0	0	0	0	0	2	3.2	0	2	0	3.2
Mov. Pict. Actress.	1	1.6	0	1	0	1.6	0	0	0	0	0	0
Artist	0	0	0	0	0	0	1	1.6	1	0	1	1.6

There were found to be sixty-one different kinds of work selected by the instructed classes and sixty-three kinds by the uninstructed. Twenty-four and five-tenths per cent. of the first group and 23.8 per cent. of the second held to the occupation which they had given as their choice in the first test. Of all the children who were questioned, only one, a girl of the uninstructed group, replied to all three queries regarding her choice of occupation that she had not decided. Seventy-two and one-tenth per cent. of the instructed children gave as their chosen occupations those which had been studied in the school lessons. Seventy-five and four-tenths per cent. of the instructed group and 60.3 per cent. of the uninstructed held to the occupation which they had said in the preceding test it was their intention to take up. Of the first group whose occupational choice had changed, 9.8 per cent. had evidently forgotten what occupation they had given in June, 1913, as their preference. Of the uninstructed, there were 22.2 per cent. who had also apparently no correct recollection of their previous written choice.

Six and five-tenths per cent. of the instructed children and 14.2 per cent. of the uninstructed children gave no reason in answer to Question 6, "If you have changed your mind, what were your reasons for doing so?" The following are the changes of occupation in the instructed group and the reasons which they gave:

No. 18. Girl changed from cooking teacher to stenographer. Reason—"Because I had not fully decided what I was going to do."

No. 21. Boy changed from civil engineer to lawyer. Reason—"I think I will like it better. My brother has changed, and I desire to be the same as he."

No. 35. Boy who gave as his choice "civil engineer" and is now an errand boy in a printing office and would like to be a printer. Reason—"My father died, and I could not go to school any longer."

No. 47. Girl changed from stenography to school teacher. Reason—"I thought a position as a school teacher was much better than a position as a stenographer."

No. 51. Girl changed from teacher to secretary. Reason—"My parents thought I would have a better chance if I should take up this work."

No. 53. Girl changed from telephone operator to dressmaker. Reason—It is too long to wait to be a telephone operator, as I am only 14 and you have to wait to be 17."

No. 56. Girl changed from stenographer to salesgirl. Reason—"I like it better than going to school."

No. 68. Boy changed from cabinetmaker to "I do not know." Reason—"I was advised."

No. 88. Boy who gave as his choice "machinist" is now "delivering orders on a peddling wagon," and "would like to get an office position and work myself up to a bookkeeper or something better." Reason for change—"When I left school I had to take the first thing that came along to help my mother along."

No. 89. Boy changed from soldier to electrician. Reason—"Because then I had wrong ideas of what army life was; now I know better."

The following are the changes and the reasons given by the uninstructed group:

No. 153. Boy changed from traveling salesman to chauffeur. Reason—"More money."

No. 156. Girl changed from stenographer to trained nurse. Reason—"I would rather do something to help others and that war has appealed to me."

No. 164. Girl changed from music teacher to typewriter or stenographer. Reason—"I like typewriting so I thought I would be a typewriter, and if I like stenography, I might be a stenographer."

No. 172. Boy changed from grocery business to automobile painting. Reason—"Didn't like business."

No. 179. Boy changed from electrical work to "I would like to get a job in an automobile place learn how to repair and run a car." Reason—"Because automobiling is the becoming thing, to repair and run cars."

No. 181. Girl changed from music teacher to dressmaker. Reason—"I have gone to a school where I have learned dressmaking and have liked it better than music."

No. 185. Girl changed from typewriter to factory work. Reason—"A lady spoke for me in the Edison Light and I am waiting to receive word from them."

No. 207. Girl changed from school teacher to bookkeeper. Reason—"I thought that there would be a better chance for promotion and for higher wages."

No. 215. Boy now working in a dental laboratory changed from "some office work" to "be skilled in teeth which is a trade under the name of Mechanical Dentistry." Reason—"I wanted to learn *this* trade."

No. 224. Girl now working as cashier in a dry goods store changed from bookkeeper to "undecided." Reason—"Didn't care for school."

No. 232. Boy changed from bookkeeper to engineer. Reason—"I think it is better."

No. 244. Girl changed from teacher to "I would like to work in a department store." Reason—"Because I knew I could not afford to go to school all that time."

No. 252. Girl changed from music teacher to stenographer. Reason—"I haven't changed my mine."

No. 265. Girl changed from stenographer to bookkeeper. Reason—"I liked it better."

No. 268. Boy changed from machinist to printer. Reason—"I had to take both machine shop work and printing, and I liked the printing best."

No. 275. Girl changed from teaching to commercial work. Reason—"Decided not to teach."

The answers to questions 6 and 7, "What school are you attending now?" and "What course are you taking?" brought out the information that 72.1 per cent. of the instructed and 65.1 per cent. of the uninstructed group were attending some high school. All of the first group were on the school road which will lead most directly to their chosen occupation. Three and two-tenths per cent. of the uninstructed were not headed in the best way educationally.

It was found that 27.9 per cent. of the instructed children and 36.5 per cent. of the uninstructed were at work in June, 1914. Of these, 13.1 per cent. and 9.5 per cent. were engaged in occupations which would help to fit them for the kind of work which they had indicated they were eventually to take up. Eight and two-tenths per cent. of the first group and 22.3 per cent. of the second were not engaged in occupations which would train them in any direct sense for the life work which they had chosen. The remaining 6.6 per cent. of the first group and 6.3 per cent. of the second were classified as doubtful cases.

The classes with whom the investigation was conducted are typical of many thousands of groups of children throughout our land. The conclusions which the study warrants are therefore widely applicable. There are sufficient data to indicate that children about to be graduated from our grammar schools are deeply interested in the work of the world. The vast majority of them are evidently capable of visualizing for themselves an occupational future. They lack neither comprehension nor vision. What they do lack is definite, systematic, expository instruction in vocational opportunity and inspiration and direction as how to discover their own talents and limitations. Clearly, the way to place opportunity to do this before the great masses of our children is to give occupational study a definite place on our seventh and eighth grade grammar school program. The objection that we have no reliable information to give is rapidly losing weight. Such studies as those which are now being made in Buffalo, Dr. Ayres' very recent valuable classification of constant occupations under the Russell Sage Foundation, the Chicago, Minneapolis, Cincinnati and Cleveland studies, the contributions of the Boston Vocation Bureau and of the Women's Industrial Union furnish ample material for the foundation of a grammar school course in occupational study. The elementary school can render no more valuable service to society than to take this means of awakening in the minds of its graduates a life-career motive.

Size of Class as a Factor in Schoolroom Efficiency

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THE opinion is prevalent among school administrators and supervisors that large classes are not so efficient as small classes, and that the difference in achievement between the two groups is sufficient to justify a reduction in the size of the larger classes. This opinion, until quite recently, could not be verified except by random observation and personal judgment.

All the scientific studies of the size of classes which have been made thus far seem to indicate that the above opinion is largely incorrect and without justification in fact. The promotion rate is the most common criterion by which the effect of the size of class is judged, although some other standards have been used. Dr. O. P. Cornman,[1] Dr. Frank P. Bachman[2] and Dr. P. A. Boyer,[3] after studying several hundred classes, agree that large classes do not, uniformly or in any very marked degree, affect the promotion rate. Dr. Cornman,[1] using pupils' standing in *conduct* and pupils' *daily marks* given by the teacher during recitation, as standards by which to judge the efficiency of the class, reaches the conclusion that the size of the class is not an important factor in determining the *conduct* of the class or the *daily marks* the pupils receive. Dr. J. M. Rice[4] reached the conclusion that large classes ranked high as often as small classes when tested for arithmetical abilities.

It is interesting to note that in every instance except one the investigators cited above advise against having overlarge classes. This advice is no doubt based on the belief that measures other than those used by these men, if applied to the achievements of large, medium and small classes, would undoubtedly reveal the harmful effects of having too many pupils in one class.

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[1] O. P. Cornman: Effect of Size of Class on School Progress. Psych. Clin., December, 1909.

[2] F. P. Bachman: Rep. of New York Com. on School Inquiry, Vol. I, Part II.

[3] P. A. Boyer: Size of Class and Promotion Rate. Psych. Clinic, May, 1914.

[4] J. M. Rice: "Scientific Management" in Education. Ch. IV.

It was for the purpose of testing the truth of the above conclusions, by the use of various measures, that the present study was undertaken. The measures used were:

(1) Promotion rate.
(2) Percentage of withdrawals from the class.
(3) Scores in arithmetic made in the Courtis tests.
(4) Percentage of class not giving attention during recitation.
(5) Percentage of class not participating in the work of recitation.
(6) Time spent in performing the various routine activities of the schoolroom.
(7) Percentage of time wasted by the class during study period.

Lack of space prevents an elaborate discussion and complete presentation of all the material at hand, but the method, data and results will be presented briefly in connection with each of the above measures.

PROMOTION RATE.

The data on Promotion Rate, and also on Withdrawals, were obtained by means of copies of enrollment-promotion records returned on prepared forms sent in from thirty-two cities distributed throughout seven States. The records represent 35,573 pupils grouped in 1348 classes. These returns show the total enrollment by classes at the end of the school year 1912-13, the number of pupils withdrawn from the class during the year, and the number of pupils promoted at the end of the year 1912-13. The number remaining in the class at promotion time was used as the divisor and the number promoted as the dividend in computing the percentages of pupils promoted. The classes were then grouped, together with their accompanying promotion rates, according to the size of the classes into nine groups, as shown in the following tables. Table I shows the distribution of classes and the distribution of pupils in each of the different sized class-groups:

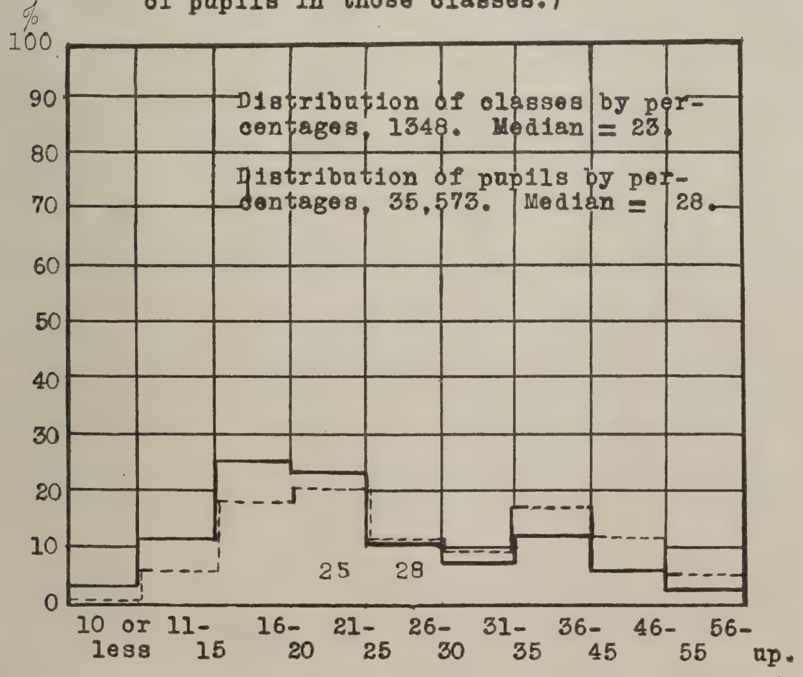
TABLE I.

(Showing distribution of classes and distribution of pupils in those classes.)

With enrollment of	No. of classes.	Per cent. of total.	No. of pupils.	Per cent. of total.	Added per cent. (From bot.)
10 or less..........	39	2.9	353	.9	100.0
11 to 15...........	149	11.1	1976	5.5	99.1
16 to 20...........	342	25.4	6431	18.8	93.6
21 to 25...........	308	22.8	7196	20.2	74.8
26 to 30...........	145	10.7	3940	11.1	54.6
31 to 35...........	105	7.8	3505	9.8	43.5
36 to 45...........	150	11.1	6200	17.2	33.7
46 to 55...........	81	5.9	4036	11.2	16.5
56 up.............	29	2.3	1936	5.3	5.3
	1348	100.0	35573	100.0	

The above table should be read—39 classes, or 2.9 per cent. of all classes, have an enrollment of 10 pupils or less; 353 pupils, or .9 per cent. of all pupils, are in classes with an enrollment of 10 pupils or less, etc. The class of median size is a class of 23 pupils. The median pupil, however, is in a class of 28 pupils. These medians indicate that there are probably factors already at work tending to reduce the size of the class from what it formerly was. The above distributions are represented graphically in Chart I:

CHART I.
(Showing distribution of classes and distribution of pupils in those classes.)



The average promotion rates for classes of each size grade by grade are given in Table II:

TABLE II.

(Showing promotion rates in classes of different sizes.)

Grades............ Size of Class.	I. Prom. Rate.	II. Prom. Rate.	III. Prom. Rate.	IV. Prom. Rate.	V. Prom. Rate.	VI. Prom. Rate.	VII. Prom. Rate.	VIII. Prom. Rate.	Ave. Prom. Rate.
10 or less........	70.7	89.4	83.3	**94.0**	**93.2**	**88.9**	77.1	93.7	**86.5**
11 to 15..........	**88.6**	87.9	83.5	87.8	84.4	86.1	74.9	94.1	85.5
16 to 20..........	82.0	82.7	84.9	81.0	84.4	85.3	72.1	93.2	82.7
21 to 25..........	85.5	86.3	**87.3**	74.9	81.6	86.2	86.3	92.6	84.2
26 to 30..........	78.0	85.6	80.3	86.1	86.0	81.7	84.0	**94.2**	83.5
31 to 35..........	74.3	88.8	79.1	74.6	84.1	79.4	78.5	92.2	81.5
36 to 45..........	79.8	83.3	87.1	80.0	85.5	82.7	**86.6**	86.6	84.3
46 to 55..........	79.4	**90.6**	83.3	82.8	82.1	85.3	86.0	84.7	84.3
56 up.............	73.9	79.6	83.0	56.5	69.8	72.0	46.0	83.2	74.5
Grade Ave......	79.1	86.0	83.5	79.7	83.4	83.1	76.8	90.5	83.0

The above table should be read—In classes of 10 pupils or less, the promotion rate in Grade I is 70.7 per cent.; in Grade II, 89.4 per cent., etc. Figures in bold-face type represent the maximum promotion rate for each grade. The following facts are evident from the above table:

(1) There is no regular decrease in the promotion rate as the size of the class increases.

(2) The maximum promotion rate does not fall uniformly within the smaller class groups, but is found sometimes in the medium and sometimes in the larger class groups.

(3) The minimum promotion rate does, however, with two exceptions, fall within the larger class groups.

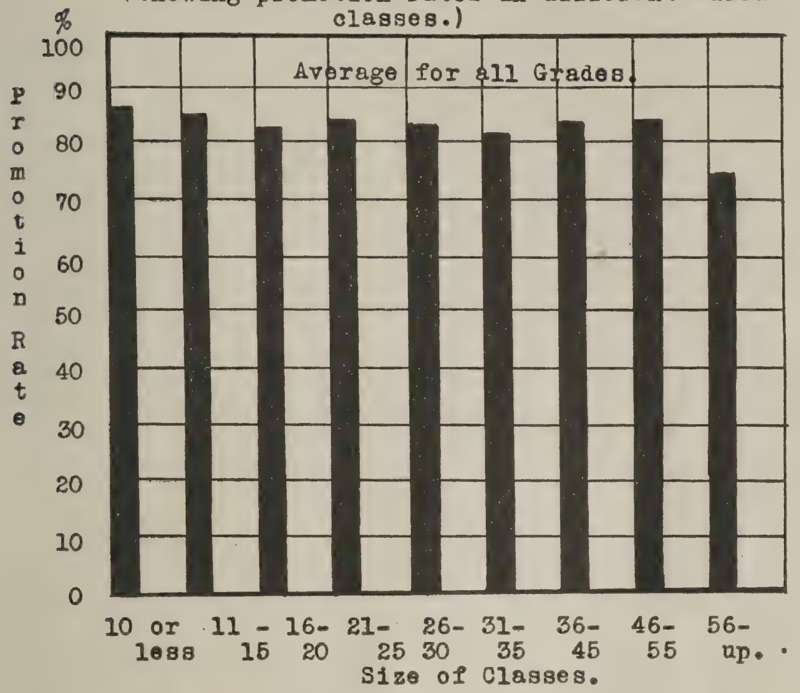
(4) In the column of averages for all grades there is a slight, but not regular decrease as the size of the class increases. In this column, too, the maximum rate falls in the smallest class group, and the minimum rate falls in the largest class group.

(5) In all grades except Grades II and VII the maximum promotion rate falls in classes of thirty pupils or less.

(6) The promotion rates in all grades are rather uniformly low for classes of fifty-six or more pupils.

The effect of size of class upon promotion rate, without reference to grades, is shown graphically in Chart II:

CHART II.
(Showing promotion rates in different sized classes.)



The evidence furnished by Table II and Chart II is sufficient to justify the conclusion that size of class is not a factor of great importance in determining promotion rates. However, it must not be overlooked that the evidence, though slight, does favor small classes, and that classes above fifty-five pupils uniformly have low promotion rates.

Just how important a factor the size of class is in determining promotion rates must be determined by showing how many more pupils would be promoted if the number in the large classes could be reduced. The data for determining this are furnished in Tables I and II.

The figures of the last column of Table I show the percentage of pupils enrolled in classes above any given size. From the last column of Table II can be obtained the average of all promotion rates above a class of any given size, also the average below a class of that given size. Now, if the average rates for classes above a given size be subtracted from the average rates for classes below that size, the differences thus obtained represent the percentages of pupils benefiting by a reduction of the size of classes. This percentage of the whole number in all groups above a given size, then, gives the saving in pupils promoted which would result if all classes above a given size were reduced to classes below that given size. Table III represents the results of such computations for each class-size:

TABLE III.

(Showing the saving in promotions per 1000 pupils which would result from a reduction in the size of classes.)

Size of Class.	Ave. Prom. rate for all classes below.	Ave. Prom. rate for all classes above.	Difference in rates above and below.	Pupils per 1000 enrolled in groups above.	Saving in promotions per 1000 pupils enrolled in each group.
55 or less......	84.1	74.5	9.6	53	5
45 or less......	84.0	79.4	4.6	165	8
35 or less......	84.0	81.0	3.0	337	10
30 or less......	84.5	81.1	3.4	435	15
25 or less......	84.7	81.6	3.1	546	17
20 or less......	84.9	82.1	2.8	748	21
15 or less......	86.0	82.1	3.9	936	37
10 or less......	86.5	82.6	3.9	991	39

The assumption in this table becomes clear when the table is read—If all classes with an enrollment above 55 pupils were reduced to classes of 55 or less, 5 more pupils per 1000 would be promoted; if all classes above 45 were reduced to 45 or less, 8 more pupils per 1000 would be promoted, etc. The column at the right shows a slight increase in the number of pupils promoted as the size of the class is reduced. The saving thus secured, however, is small in comparison with the increased cost that would attend the administrative adjustments demanded by a reduction in the size of classes. No doubt the same or greater gain in the number of pupils promoted could be secured much more economically through improved methods of teaching and more skillful management of the larger classes.

PERCENTAGE OF WITHDRAWALS.

Overcrowding and congestion in schoolrooms necessarily results in large classes. This congestion is frequently the result of non-promotion and retardation. It is a fairly well authenticated fact that non-promotion and retardation are most important factors in producing elmination from school. With these facts in mind, it is not difficult to understand how large classes may result in a high percentage of withdrawals. Moreover, if one were to find that there is a larger percentage of withdrawals from large than from small classes, one would have evidence of a causal relationship existing between the size of class and the percentage of withdrawals.

The data pertaining to this measure of school efficiency were obtained from the same sources and on the same blanks as those for promotion rates. The number of classes represented and the method of grouping them is the same as for that of promotion rates. The term "withdrawal from the class" is used synonymously with "elimination," and includes withdrawals for any cause except promotion to another class. The percentages are based on the total enrollment in the class, grade by grade, for classes of different sizes. Table IV indicates these percentages:

TABLE IV.

(Showing percentages of pupils permanently withdrawn from classes of different sizes during the year.)

Grades............	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	All grades.	
Size of Class.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	Per ct. of withd.	
10 or less.....	**7.7**	**8.6**	**2.8**	16.4	17.5	15.0	15.7	15.0	12.4	
11 to 15.......	14.3	8.8	10.6	**9.3**	11.6	**10.6**	13.6	13.1	11.5	
16 to 20.......	14.2	9.3	12.5	11.4	**9.8**	10.9	12.0	9.9	**11.3**	
21 to 25.......	14.5	14.1	11.8	11.3	13.2	13.7	13.8	10.1	12.8	
26 to 30.......	17.8	14.8	13.3	14.8	13.1	18.1	**9.4**	12.7	14.3	
31 to 35.......	18.6	14.8	12.5	10.5	16.2	13.5	15.6	13.8	14.4	— 12.8%
36 to 45.......	18.7	19.8	8.6	12.9	15.5	17.4	16.4	**8.6**	14.7	
46 to 55.......	22.4	14.8	18.5	13.5	15.2	18.3	9.5	9.7	15.2	
56 up..........	24.0	17.5	14.0	28.9	15.8	33.3	18.7	11.1	20.4	— 16.8%
	16.9	13.6	11.6	14.3	14.2	16.5	13.8	11.6	14.1	Dif. = 4%

Table IV should be read—In Grade I in classes with an enrollment of 10 pupils or less, 7.7 per cent. of all pupils enrolled were permanently withdrawn from the class during the year; in Grade II, 8.8 per cent., etc. Figures in boldface type represent the lowest percentages of withdrawals for each grade.

Certain conclusions are warranted by the foregoing facts:

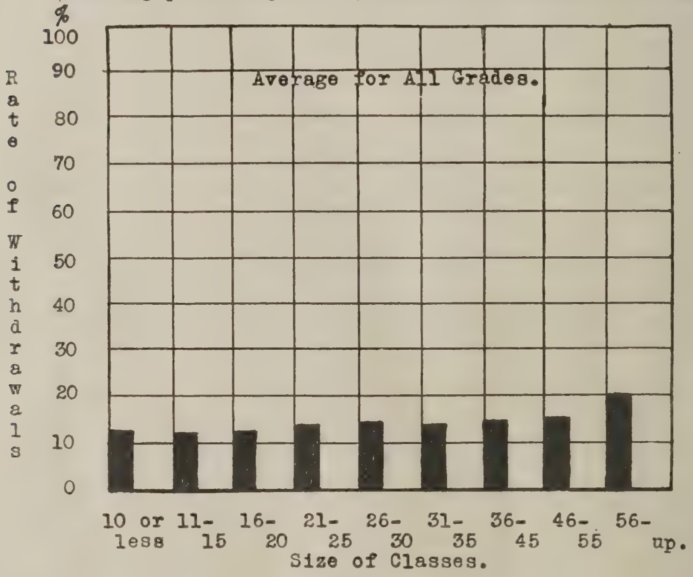
(1) The lowest percentages of withdrawals, with the exception of Grades VII and VIII, fall within classes of 20 pupils or less; the highest percentages, with the exception of Grades V and VIII, fall within classes of 36 pupils or more.

(2) There is a somewhat regular increase in the rate of withdrawals as the size of the class increases, both grade by grade, and in the averages for all grades.

(3) If the average percentage for all classes of 35 pupils or less be subtracted from the average for all classes of 36 or more, the difference thus found is 4 per cent. This means that in classes of 36 pupils or more 4 more pupils per 100 are eliminated than in classes of 35 pupils or less.

The figures of the last column in Table IV are represented graphically in Chart III:

CHART III.
(Showing percentages of permanent withdrawals during year.)



The facts of Table IV and Chart III seem to justify these conclusions:

(1) The larger the class, the higher the percentage of permanent withdrawals from those classes.

(2) Large classes, if not the cause of, are, at any rate, accompanied by a high percentage of permanent withdrawals from these classes.

The above conclusions, however, do not guarantee that a reduction of the size of the larger classes will necessarily decrease the percentage of withdrawals. The problem of withdrawals or elimination is a complex one, involving many factors of which the size of class is only one. All of these factors must be controlled in order to guarantee a decrease in the amount of elimination.

STANDING IN ARITHMETIC AS DETERMINED BY THE COURTIS TESTS.

The data for this part of the investigation were made available through the kindly co-operation of Mr. S. A. Courtis of Detroit, Mich. With the understanding that the names of the cities furnishing the data were not to be used, the writer was permitted to copy as many of the class scores as were required in making the investigation. From a random sampling of all scores on file the individual scores of 17,597 pupils, representing 675 classes, were obtained. These include most of the scores from twenty-two cities, representing ten States.

Familiarity with the Courtis tests is assumed, hence no attempt is here made to explain them. The term ''class score'' is the term applied to the average score for each class. The average of all the class scores for all classes of given size is the measure used to determine the effect of the size of class on achivement in arithmetic. Scores for Grades I and II were not available, hence only Grades III to VIII are included. Since the scores vary so much from grade to grade, it was deemed advisable not to combine the averages for all grades. The extent of the table giving the class scores for each sized class, grade by grade, prevents its use in this connection, but summaries derived from this table are herewith presented.

If small classes tend, in general, to make higher scores in arithmetic than do medium or large classes, then we should expect a larger percentage of the maximum scores to be made in the smaller classes. In the eight tests there are three, Tests 6, 7 and 8, in which both the attempts and rights are counted. This makes a total of eleven scores possible in any class or class group. Now, since there are six grades, 3, 4, 5, 6, 7 and 8, taking the tests, sixty-six maximum scores are possible. If all the maximum scores are made in small classes, our conclusion must be that the small classes do better than the medium or large classes. The facts regarding the number and percentage of maximum scores are presented in Table V:

TABLE V.

(Showing number of times maximum scores are found in any sized class group.)

Size of Class.	No. of maximum scores in any class group.	Per cent. each number is of total.	Added percentages.
10 or less	4	6.0	6.0
11 to 15	2	3.0	9.0
16 to 20	4	6.0	15.0
21 to 25	4	6.0	21.0
26 to 30	7	10.6	31.6
31 to 35	12	18.2	49.8
36 to 45	16	24.2	74.0
46 to 55	13	20.0	94.0
56 up	4	6.0	100.0
	66	100.0	

Table V becomes clear when read—4 maximum average scores out of a possible 66, or 6 per cent. of all maximum scores, were made by classes with an enrollment of 10 pupils or less; 2, or 3 per cent., of all maximum scores were made in classes of from 11 to 15 pupils, etc.

The following conclusions are apparent in Table V:

(1) Maximum scores are made in every sized class group.

(2) The largest number of maximum scores is found in the class group of from 36 to 45 pupils.

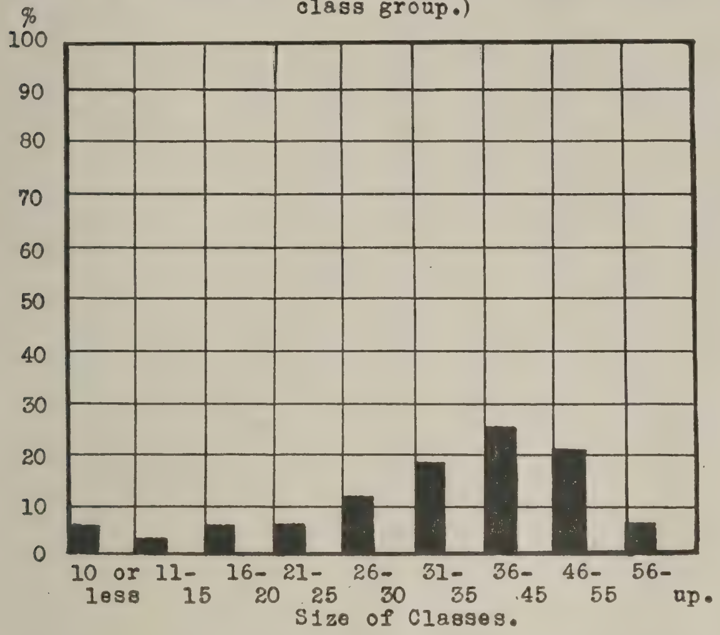
(3) The middle 50 per cent. of maximum scores falls within a range of from 26 to 45 pupils per class.

These facts are shown graphically in Chart IV.

The evidence presented in Table V and Chart IV seems to favor classes of medium size (from 31 to 55 pupils). This conclusion would hardly be reliable, however, unless further verified by the data of the original table, since the maximum scores are only a very small proportion of the whole number of scores considered.

Another way of summarizing the results of the original table is to summarize the deviates from the grade average. If the smaller class is more efficient than the medium or large classes, the larger percentage of the plus deviates, *i. e.*, average scores ranking above the grade average, will fall in the small sized class groups. In like manner the minus deviates,

CHART IV.
(Showing percentage of maximum scores made by each sized class group.)



i. e., average scores ranking below the grade average, will fall in the large sized class groups. The facts regarding the deviates are given in Table VI:

TABLE VI.

(Showing the distribution of the deviates from the grade average, by grades and by size of class.)

Size of Class.	(+) Plus Deviates.						
	III.	IV.	V.	VI.	VII.	VIII.	Total.
10 or less	2	0	2	8	1	2	15
11 to 15	7	3	3	4	2	3	22
16 to 20	7	2	6	1	3	6	25
21 to 25	6	10	8	5	2	4	35
26 to 30	3	4	7	8	2	5	29
31 to 35	4	6	4	6	11	4	35
36 to 45	6	3	11	2	6	11	39
46 to 55	4	9	3	3	9	4	32
56 up	8	4	5	..	2	2	21
							253

Size of Class.	(—) Minus Deviates.						
	III.	IV.	V.	VI.	VII.	VIII.	Total.
10 or less	7	11	9	1	10	8	46
11 to 15	1	7	7	4	9	6	34
16 to 20	3	7	2	8	7	4	31
21 to 25	2	1	3	3	6	4	19
26 to 30	7	5	3	2	8	5	30
31 to 35	3	3	6	3	0	5	20
36 to 45	3	7	0	7	2	0	19
46 to 55	4	1	8	7	1	7	28
56 up	3	5	6	..	8	8	30
							257

Size of Class.	(0) No Deviation.						
	III.	IV.	V.	VI.	VII.	VIII.	Total.
10 or less	2	0	0	2	0	1	5
11 to 15	3	1	1	3	0	2	10
16 to 20	1	2	3	2	1	1	10
21 to 25	3	0	0	3	3	3	12
26 to 30	1	2	1	1	1	1	7
31 to 35	4	2	1	2	0	2	11
36 to 45	2	1	0	2	3	0	8
46 to 55	3	1	0	1	1	0	6
56 up	0	2	0	..	1	1	4
							73

The above table should be read—In Grade III in classes of 10 pupils or less two average scores were above the grade average; in Grade IV, no average scores were above the grade average, etc. In the table "—" indicates that there are no classes in Grade VI with an enrollment of 56 or more pupils. It will be seen that there is no general tendency for the plus deviates to predominate in the small sized classes.

The total number of scores with no deviation from the grade average was then divided equally between the total plus and total minus deviates. The percentages of each class of deviates were then computed for classes of each size without reference to the grades in which they were made. These percentages are shown in Table VII:

TABLE VII.

(Showing the percentages of plus and minus deviates and in what sized class each percentage predominates.)

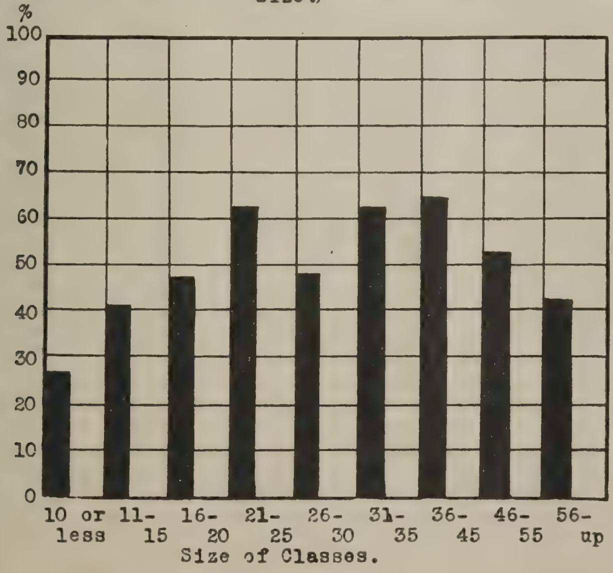
	(+) Plus Deviates.		(—) Minus Deviates.	
	Number.	Per cent.	Number.	Per cent.
10 or less	17.5	27	48.5	73
11 to 15	27	41	39	59
16 to 20	31	47	36	53
21 to 25	41	62	25	38
26 to 30	32.5	49	33.5	51
31 to 35	40.5	62	25.5	38
36 to 45	43	65	23	35
46 to 55	35	53	31	47
56 up	23	42	32	58

Table VII becomes clear when read—In classes of 10 pupils or less 17.5 of the 66 deviates, or 27 per cent. of the deviates, are plus, etc. If the size of class were an important factor in determining the achievement in arithmetic, then we should expect to find a larger percentage of the plus deviates in the small classes and a correspondingly low percentage in the large classes. The above table shows that this is not the case. The largest single percentage is found in classes of from 36 to 45 pupils. On the other hand, the largest percentage of minus deviates is in the smallest sized class, 10 pupils or less. It should be noted also that there is no regular decrease in the proportion of plus deviates as the size of the class increases, but, on the contrary, there is a somewhat regular *increase* in the percentage of plus deviates as the size of the class increases up to classes of from 36 to 45 pupils. Chart V shows graphically this increase.

The reader should not forget, however, that in Tables VI and VII only the *direction*, and not the *amount*, of the deviation is taken into account.

CHART V.

(Showing percentages of plus deviates found in classes of each size.)



If the correlation between the size of class and achievement in arithmetic were direct, we should find all of the plus deviates in the smaller class groups, all the zero deviates in the medium sized class groups, and all the minus deviates in the larger class groups. If the correlation is low or lacking the plus, zero and minus deviates would be scattered promiscuously throughout the class groups without any reference to the size of the class. This latter condition prevails, with slight modification, in both Tables VII and VIII.

In Table VIII not only the direction, but also the amount of the deviations is taken into account. In summarizing the deviations for all grades in each of the eight tests, the following formula was used in making the computations:

$$\frac{\text{Algebraic sum of deviates of each sized class for all grades}}{\text{Number of grades represented (six)}} = \text{Ave. amt. of dev.}$$

TABLE VIII.

(Showing average amount of deviation from grade average in each test for all grades.)

Size of Class.	Test 1.	Test 2.	Test 3.	Test 4.	Test 5.
10 or less	—6.0	—2.8	—2.2	—2.3	+1.3
11 to 15	—3.5	— .8	— .2	—1.3	+2.7
16 to 20	— .8	+1.5	+ .2	— .5	+1.3
21 to 25	+1.8	+ .7	+1.0	+1.7	+3.3
26 to 30	+1.7	+ .3	—1.0	+ .3	+ .7
31 to 35	+1.8	+ .5	+1.8	+ .2	+1.3
36 to 45	+2.1	+2.8	+2.2	+1.3	+2.7
46 to 55	+ .9	—2.0	—1.1	— .1	—8.7
56 up	—1.7	—1.2	—2.3	— .7	—1.8

Size	Test 6.		Test 7.		Test 8.	
of Class.	Attempts.	Rights.	Attempts.	Rights.	Attempts.	Rights.
10 or less	—.55	—.5	—.07	—.45	—.3	—.2
11 to 15	—.33	—.37	0	+.11	+.07	—.03
16 to 20	—.23	—.18	—.15	+.1	+.2	+.2
21 to 25	—.18	—.07	0	+.17	+.2	+.1
26 to 30	—.15	0	—.07	+.33	—.3	—.05
31 to 35	+.28	—.05	+.8	+.5	—.07	+.05
36 to 45	+.27	+.1	+.5	+.2	+.07	+.14
46 to 55	+.53	+.6	—.4	—.3	+.18	—.04
56 up	+.07	+.47	—.8	—.2	—.1	+.15

The above table becomes clear when read—In Test 1 in classes of 10 pupils or less the average score is 6 examples below the grade average for all grades; in Test 2, 2.8 examples below the grade average for all grades, etc.

When both the direction and the amount of the deviations from the class average are taken into consideration, as in Tables VII and VIII, the following facts are apparent:

(1) Small classes show little, if any, superiority in achievement in arithmetic over large classes.

(2) Medium sized classes (25 to 45 pupils) rank slightly above the average for classes in general.

(3) Very large and very small classes almost without exception do work below the average for classes in general.

All the facts herein presented seem without exception to favor classes of medium size as the most efficient in achievement in arithmetic as measured by the Courtis tests.

PERCENTAGE OF CLASS NOT GIVING ATTENTION DURING RECITATION PERIOD.

It is frequently stated that it is more difficult to hold the attention of a large class than it is of a small class. If this be true, then one might argue for a reduction in the size of classes in order to secure the attention of a larger percentage of the class. The data presented in this section throw some light on the truth or falsity of the above statement.

The data concerning this and the following topics were obtained by personal observations made during 76 visits to 30 classes in two city school systems. Although these data are too meager to furnish conclusive evidence of the effects of size of class, they serve as an indication of the direction, at least, which other and more extensive studies may take.

It is not a difficult matter to count the number of persons in a class evidently not giving attention as much as half the time during the recitation period. When there was doubt in the mind of the observer as to whether a pupil was giving attention, that pupil was counted as giving attention. Table IX gives the results of these observations in terms of percentages:

TABLE IX.

(Showing percentage of class not attending to work of class as much as half the recitation time.)

Size of Class.	No. of classes.	No. of pupils.	No. of observations made.	Per cent. of class not giving attention.
10 or less	1	6	3	0
11 to 15	6	84	15	18.5
16 to 20	10	181	23	27.2
21 to 25	8	183	18	17.8
26 to 30	1	30	5	10.0
31 to 35	2	66	5	18.1
36 to 40	0	0	0	....
41 to 45	2	84	7	21.4
45 up	0	0	0	....
	30	634	76	16.1

The following facts are evident from a consideration of the above figures:

(1) The largest percentages of pupils not giving attention is in classes of from 16 to 20 pupils; the smallest, in the one class of less than 10 pupils.

(2) There is no regular increase in the number of inattentive pupils as the classes become larger.

Although the data are very meager, the results would seem to indicate that the size of class is not an important factor in determining the number of pupils giving attention to the work of the recitation.

PERCENTAGE OF THE CLASS NOT PARTICIPATING ACTIVELY IN THE WORK OF THE RECITATION.

One of the functions of the recitation is to give to the pupils the opportunity of taking a more or less active part in the discussions, of expressing ideas previously gained, of forming opinions and stating them, and of questioning and being questioned. If this function is greatly limited for many of the pupils in large classes and not so limited in smaller classes, it would seem advisable to reduce the size of the larger classes.

Data bearing on the opportunities for participation in the class activities in classes of different sizes are presented in Table X. These data were obtained in the same way and at the same time as those given in Table IX. Only those were counted as non-participants who neither responded when called upon nor volunteered to recite, or who neither asked questions nor in any way took part in the activities of the recitation.

TABLE X.

(Showing percentage of class not taking active part in the work of the recitation.)

Size of Class.	No. of classes.	No. of pupils.	No. of observations.	Per cent. of class not taking active part.
10 or less	1	6	3	0
11 to 15	6	84	15	12.8
16 to 20	10	181	23	17.5
21 to 25	8	183	18	19.1
26 to 30	1	30	5	10.0
31 to 35	2	66	5	16.1
36 to 40	0	0	0	....
41 to 45	2	84	7	17.5
	30	634	76	13.3

Table X shows—(1) The largest percentage of pupils not participating in the work of the recitation is in classes of from 21 to to 25 pupils; the smallest, in classes of 10 or less.

(2) There is no regular increase in the percentage of pupils not taking active part in the recitation corresponding to the increase in the size of class.

These facts give only slight evidence in favor of small classes.

TIME SPENT IN PERFORMING THE VARIOUS ROUTINE ACTIVITIES OF THE CLASSROOM.

The ease and promptness with which a class performs the various mechanical activities of the classroom is an index of the efficiency of the management of that class. If much time is spent in getting to work after each recitation or after each intermission, or if the time required for the class to get to the board or front of the room or to get ready for dismissal is greater in large classes than in small classes, the smaller classes may be regarded as the more efficient in this respect. The table which follows gives some evidence in answer to the question,—Can small classes be more efficiently managed than large classes?

The data of Table XI were secured during 76 observations in 30 different classes distributed throughout the grades. A watch was held and the time counted from the time the signal was given until the completion of the activity by every member of the class. Some pupils were prompt in their movements, while others were slow and dilatory. The class as a whole, however, and not the individual, was taken as the unit.

The time in Table XI is given in seconds, and represents the average for all classes of each size. The number of classes, the number of pupils, and the number of observations are the same as in Table X.

TABLE XI.

(Showing the time required for classes to perform the various mechanical activities of the classroom.)

Size of Class.	Time to get to work after each intermission. Seconds.	Time to get to work after each recitation. Seconds.	Time to get to board or front of room. Seconds.	Time to get ready for dismissal. Seconds.
10 or less	30	120	60	80
11 to 15	62	78	27	75
16 to 20	92	186	36	97
21 to 25	69	87	38	45
26 to 30	..	66	20	60
31 to 35	24	67	113	61
36 to 40	..	..	..	..
41 to 45	91	174	38	81
	61	111	47	71

The following facts may be gained from the above table:

(1) The maximum time required for all activities except that for passing to the board is in classes of from 16 to 20 pupils.

(2) There is no regular increase in the amount of time required to perform the various activities as the size of the class increases.

(3) There is no conclusive evidence that large classes uniformly require more time than small classes to perform the various routine activities of the classroom.

The evidence of the above facts seems to indicate that the size of class is not an important factor in efficient classroom management.

PERCENTAGE OF TIME WASTED BY CLASS DURING STUDY PERIOD.

It is generally conceded that much time is wasted during the study period because of lack of oversight of pupils by the teacher during that period. The greater the number of pupils in a class, the more difficult it is to keep every pupil employed. This being true, we should expect to find more time wasted in large than in small classes. Table XII presents the facts concerning the time wasted in the different sized classes.

Time was considered wasted when the pupil was not doing the work that was assigned to be done during the study period, or when he was not employed in some activity which seemed, to the observer, to be profitable. When pupils were engaged in the numerous forms of disorder, or when they appeared to be "killing time" by engaging in some unnecessary activity, the time thus employed was judged wasted. It was evident that some pupils wasted no time, while others wasted practically all of the time assigned.

The time was estimated, watch in hand, as accurately as possible for each individual of the class during the observation period. The total minutes thus wasted by all members of the class was then used as the base for computing the percentage of time wasted. In making these computations the following formula was followed:

$$\frac{\text{Sum of minutes wasted by all individuals}}{\text{Length of study period} \times \text{number of pupils in class}} = \% \text{ of time wasted.}$$

TABLE XII.

(Showing percentage of time wasted in study classes of different sizes.)

Size of Class.	No. of classes.	No. of pupils.	No. of observations.	Per cent. of time wasted.
10 or less	1	6	3	41.7
11 to 15	6	84	15	19.8
16 to 20	10	181	23	40.4
21 to 25	8	183	18	13.2
26 to 30	1	30	5	1.6
31 to 35	2	66	5	2.2
36 to 40	0	0	0	....
41 to 45	2	84	7	13.1
	30	634	76	18.8

Although the data of the above table are inadequate for conclusive proof, the results would seem to warrant these conclusions:

(1) The largest percentage of time is wasted in classes of 10 pupils or less.

(2) The smallest percentage of time wasted is in classes enrolling from 26 to 35 pupils.

(3) Small classes seem to waste more time than large classes.

These facts are in no sense to be taken as generalizations. The same is true of the facts of Tables IX, X and XI. The results shown in these tables might easily be disproved if based on twice or thrice the data now at hand.

CONCLUSIONS.

The conclusions stated herewith are in substantial accord with those of earlier investigators, although there are some slight disagreements as to details. Those phases of the problem of the size of class which have not been studied by earlier investigators are seen to corroborate the findings of the earlier studies in regard to the fundamental points of the problem.

(1) The effect of the size of class on promotion rate, though slight, is in favor of 30 pupils or less.

(2) Large classes seem to be a factor in producing withdrawals from the class. This is no doubt due to the relationship which exists between non-promotion and elimination.

(3) Medium sized classes (30 to 45 pupils) seem to do better work in arithmetic than either very large or very small classes.

(4) The opportunity for pupils to participate in the work of the recitation is somewhat more limited in large than in small classes.

(5) In the results obtained from the data at hand the efficiency of large classes over that of small classes is not apparent when measured by the attention given during the recitation, by the time spent in the routine activities of the classroom, and by the time wasted in the study period.

In the light of these conclusions the class of median size (23 pupils) seems too small for the most economical administration of our schools. Small classes are expensive, since they increase the cost per pupil. This added expense does not seem justified when it is known that the difference in achievement of the small over the large classes is as small as has been demonstrated in the foregoing tables and discussions. If one wishes to secure higher promotion rates, higher scores in arithmetic, better attention and wider participation in class work, more efficient class management, and better study habits, these things can undoubtedly be secured through improved methods of instruction and more efficient supervision of the larger classes rather than through a reduction in the size of classes.

DISCUSSIONS AND COMMUNICATIONS

SCHOOL REPORTING AND THE NEW ORLEANS REPORT

L. D. Coffman
University of Illinois

THE very best evidence that school administration is becoming more scientific is seen in the changing character of school reports. Formerly they were more or less discursive statements of implied achievements or mere statistical abstracts. Frequently they were formal reports to the Board of Education, and were kept in the archives of the superintendent's office. It is certain that they played an inconspicuous part in molding public opinion and in stimulating teachers to work more effectively. More recently, however, in addition to containing material obviously intended to acquaint the patrons with the history and needs of the schools, the reports have contained many fairly trustworthy and reliable data dealing with specific administrative and supervisory problems. The presence of such material in these reports is the direct result of the application of scientific methods to educational problems. Modern instruction in the field of education is resulting in a new type of school administrator. Men trained for administrative work are more and more being sought for superintendencies, and the large cities are supplementing the work of their superintendents by placing experts in charge of their research departments.

Many of the school reports prepared by these experts are important educational documents—true source material for the student of education. The 1913-14 report of the New Orleans Public Schools is of this type. Among other things, this report contains valuable scientific material relating to the causes of elimination of pupils, retardation and repeating by grades and schools, the mental, physical and social status of delinquent white boys, the location of thirteen-year-old boys in the schools, the relation of past occupations of boys in the night schools to their choice of future vocations, and the needs of the city in respect to trade education for boys. Much of this work has been done under the direction and supervision of Dr. David Spence Hill, who has recently been placed in charge of the research department.

One of the most valuable and unique features of Dr. Hill's report is a series of elaborate statistical age and progress tables, showing the status of each grade in each school, with the city averages and average deviation. Although such tables are not likely to be of much value to the general public, they are of inestimable value to students of education and to superintendents who wish to use refined measures of retardation.

Assistant Nicholas Bauer reports the comparative results of tests in spelling and arithmetic for two consecutive years. The conditions stipulated for giving and checking the tests were of such a character as to give the teachers desirable training in scientific methods. Mr. Bauer has made these tests available by printing them in the report.

Assistant P. B. Habans presents a careful study upon the efficiency of kindergarten-trained children. New Orleans is particularly adapted to an investigation of this sort, as the kindergarten movement there has experienced a steady and healthy growth since 1886, and there are now in existence forty-four regularly organized kindergartens, having ninety-three trained kindergarten teachers. Mr. Habans compared kindergarten-trained children with non-kindergarten-trained children as to age and progress grade by grade up to the fifth grade. The net result of his investigation may be summarized as follows: The kindergarten-trained child is more apt to begin his grade work on time and pass through the grades younger than the non-kindergarten-trained child.

STATE CONDITIONS FOR HIGH SCHOOL WORK*

J. Henry Johnston
University of Illinois

THE purpose of the following brief discussion is to point out a few of the more important points brought to light in three recent surveys of State secondary school systems. These surveys mark a departure from the ordinary methods of surveys, inasmuch as they are distinctly State surveys. Not only is their purpose to survey the State systems of secondary schools rather than one city system, but they are, two of them in particular, under the direction of examiners in the employ of these States.

In June, 1913, California created the office of Commissioner of

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*Will C. Wood: Report of Commissioner of Secondary Schools. State Printing Office, California, 1914. Pp. 29.

William A. Cook: A General Survey of Public High-School Education in Colorado. University of Colorado Bulletin, Vol. XIV, No. 10. Boulder, 1914. Pp. 92.

Homer Walker Josselyn: Survey of Accredited High Schools and Professional Directory of Kansas. Bulletin of the University of Kansas, No. 16, July, 1914. Pp. 252.

Secondary Education. In his first report, issued last June, the commissioner gives as the *raison d'etre* of his official existence the interests of the 90 per cent. of the high school students of California who do not go to college. Before the creation of his office the only inspection of high schools was by the University Inspector.

During the first six months of 1914 the commissioner visited the high schools of twenty-one counties, covering a distance of 6000 miles and delivering fifty addresses. He found among principals and teachers generally a keen interest in methods and practices of other schools and a desire for improvement.

He circulated comprehensive questionnaires among the 289 high schools of the State and received replies from 249. He learned through these replies that, though the requirements for ordinary high school certificates are high, 25 per cent. elude them by securing special county certificates, thus lowering the standard of work, especially in manual training and the commercial branches.

Largely through the influence of the Commissioner of Secondary Education district meetings of high school principals have been held, organizations of English teachers have been formed, a Federal council for the State control of inter-scholastic athletics has been organized, and very decided progress has been made toward working out some common policies and some definite aims in the high school work.

The commissioner considers the old 8-4 plan of organization unreasonable. He believes that all communities should be at liberty to adopt a 6-3-3 plan. The junior college, too, which has been introduced in a number of California cities has proved a valuable addition and is strongly recommended for cities of sufficient size to support it.

In "A General Survey of Public High School Education in Colorado" Wm. A. Cook, High School Visitor of the State University and conductor of the survey, makes a careful and detailed study of the distribution, financial support, and the equipment and efficiency of the high schools of the State.

Mr. Cook finds that the districts which include larger accredited schools tax themselves more freely and spend more money per pupil than the districts having smaller and non-accredited schools, in spite of the fact that the larger schools can furnish the same amount and grade of instruction as the small schools at a much smaller cost.

These larger accredited schools, composing the North Central group, also show a proportionately larger and a steadier attendance.

The same schools, together with a few of the large non-accredited four-year high schools, made considerable additions to their libraries and laboratories last year. The short-course schools made no additions of this kind at all.

The girls outnumber the boys in practically every high school outside of Denver. The boys are drawn from the smaller cities and towns to Denver by the superior advantages offered by that city in vocational work and athletics.

Athletics is encouraged and, to a considerable extent, supported financially by public money. However, adequate grounds are in many places lacking.

It is reported that 29.4 per cent. of the North Central graduates, 48.5 per cent. of the graduates of the small accredited schools and 32.4 per cent. of the non-accredited high school graduates go to higher institutions. Apparently the closer personal contact of teachers with their pupils in the small schools gives them an advantage here. The small accredited schools also turn out twice as large a percentage of teachers as the larger schools.

The salaries of high school teachers, with few exceptions, vary roughly as the number of years of experience. The number of pupils per teacher is in no group more than 21.4 per cent.

The Colorado high school teachers are a shifting population. As reasons for changing positions, the following were given in the order of frequency of occurrence: "unsatisfactory service," "better salary," "returned to school," "married." Of the teachers who went outside the State last year for work, almost two-thirds went West. The superintendents are much more permanent in their positions, while the principals form an intermediate group.

In a recent survey of the accredited high schools of Kansas, published last June, Mr. Josselyn makes some rather sweeping criticisms of these schools and suggests some important changes. Mr. Josselyn states that the only way to evolve an efficient system of high schools is to find the faults in our present system and suggest the remedies. He abundantly fulfills the first part of his prescription, at the same time offering some suggestions as to changes that may well be considered by school boards, superintendents and teachers.

One of the most glaring defects that Mr. Josselyn points out is the method by which school boards elect teachers without consulting principals and superintendents as to the fitness of these teachers for the particular positions. As a result of this method and of the narrow training given by the State University and the State colleges, a large percentage of the high school teachers, even in these best high schools of the State, are teaching subjects which they are not prepared to teach. Less than half these teachers have degrees of any sort.

Another cause for inefficient teachers, Mr. Josselyn states, is the employment of too much home talent.

Granting that the teachers have had no adequate training for their work, the author still asserts, "There can be little question that the most characteristic weakness of our Kansas situation is that of a lack of real supervision and adequate principles of administration." The superintendents and principals are often inferior to the teachers in training, and those few who are capable of supervising teachers are usually forced to give a considerable part of their time to teaching. This is particularly true of the smaller high schools. These men are paid higher salaries than teachers, and if their time cannot be employed more profitably in supervision and administering than in teaching, they should be replaced.

Superintendents and principals should be professionally trained, and should be given authority by the board in cases which require professional knowledge.

The salaries of teachers are too low to secure the best teachers. Mr. Josselyn thinks that $700 should be the minimum salary paid high school teachers.

Six types of school organizations are outlined, each one based on an elementary curriculum of six years. These different types are suggested in an endeavor to provide suitable curriculums for all types of communities.

One point which anyone must notice in an examination of the contents of the three survey reports is the general superiority of the California schools over those of the other two States. In the opinion of the author, this is not to be construed so much as a reflection upon Colorado and Kansas as a compliment to California. This same superiority might be proved to extend over practically all of the other States of the Union were adequate surveys of these other States available for comparison.

BOOK REVIEWS

ARLAND D. WEEKS. *The Education of Tomorrow: The Adaptation of School Curricula to Economic Democracy.* New York: Sturgis & Walton, 1913. Pp. x, 232. $1.25.

In the foreword to this volume Professor Weeks states concisely the aim which he has set out to realize: "Some considerations regarding the nature and function of knowledge, the main relations of life in which knowledge is of use, the agencies for the diffusion of knowledge, especially the school, and the conditions under which the movement for social welfare and democracy may be promoted through the curriculum are offered in the following pages."

When as now public school practice is assailed by two hostile forces, each in opposition to the other, such a book as the one under discussion is more than ordinarily needed, and therefore doubly helpful in aiding education to pursue a consistent course. It is alleged by one of these forces that the backbone of cultural education has been broken by the widespread adoption of the elective system, the coming in of modern studies and the reduction of time and energy spent upon the classics and mathematics, while the other attacking force promulgates with equal zeal the view that the present-day school is not adapted to the needs of the times; that it is teaching topics which, because of changed conditions of life, have ceased to have the value they once had; that it lags far behind the demands of modern times.

The question "What knowledge is of most worth?" has had many answers. The answer proposed in this volume is made from the standpoint of the three fundamental social processes of production, distribution and consumption. This somewhat novel view is supported with ingenuity and literary skill. Three interesting chapters on the producer's knowledge, the science of distribution and knowing how to consume provide a background for the author's discussion in Part II of the diffusion of knowledge by various agencies as by ordinary oral communication, the printed page, the specialist, the teacher, the school and other agencies. Part III deals with the making of the curriculum designed to convey the three kinds of knowledge which the author deems essential in a democracy. "Democracy depends not only upon the general diffusion of knowledge, but upon the kinds of knowledge diffused. Confined to knowledge of production, the individual is a slave, peasant or exploited factory operative. Knowledge of consumption alone makes one a parasite, while those expert in distributional knowledge wax rich and govern." Hence it follows that the three types of knowledge must be combined in the education of every child. Each must have training in production, in knowing values and in understanding the complex social mechanism for the interchange of commodities. "The typical tools used in the various industries should be made familiar to all by explanation and use." "Under-education for consumption is revealed in low standards of popular music, shapeless architecture, ill-kept homes and streets, unjustifiable fashions and sensationalism in literature and manners." In choosing distributional matter we are to consult points of distributional maladjustment in society and formulate knowledge specifically designed to effect improvement. In determining knowledge values we are to call as witnesses men and women of all classes—physicians, editors, farmers, cooks, bookkeepers, invalids, criminals and outcasts.

At this point the reader who has not been accustomed to view education from the particular angle chosen by this author tends to feel a bit skeptical. Are all of the people in any such occupational list capable of giving a valid analysis of the causes of their success or failure in life? Was it always knowledge or its lack? Was it not oftener good habit or its lack? On the point about consulting the criminal and the outcast for the purpose of getting suggestions for success, one is reminded of the familiar cartoon which represents a sympathetic old gentleman in the act of addressing to the convict in the street-work gang, with ball and chain at ankle, the question, "My poor fellow, what is responsible for your downfall?" He gets the answer, "Me taicher; she taught me to wroite, and Oi forged a check." Of course, there is much to be gleaned from the experience of competent persons not in the teaching ranks, and it is doubtless true that too little systematic effort has been made to collect evidence as to the demonstrated value of curriculum materials.

There is much to commend in the suggested curriculum which Professor Weeks offers in Chapter XIV as exemplifying his theory of a suitable curriculum. He cites a high school curriculum which he pronounces admirable in its formal recognition of production and consumption. As a good example of distributional subject-matter, he refers to the departments of political economy and political science of the University of Wisconsin. Then he offers an outline in three parts for the elementary and high school period, the studies of which, with the exception of the trades, are designed for both boys and girls and for all students alike. The two parts entitled Production and Consumption seem fairly within the grasp of pupils of high school age, but the work offered under Distribution appears to have been taken from the subject-matter of the before-mentioned departments of the University of Wisconsin. Aside from the too great reliance upon the efficacy of knowledge to cure the ills from which democracy suffers, it may be questioned whether a satisfactory treatment of the suggested topics can be expected in the high school.

Renan said with regard to the training of a youth: "Give him an education of fifteen or twenty years' duration or give him nothing." Even the distributional part of the curriculum proposed by Professor Weeks is admirable for the youth who stays in school till he is twenty-one or twenty-six years of age, according to Renan's prescription. J. H. V. S.

David Snedden. *Problems of Educational Readjustment.* Boston: Houghton-Mifflin Company, 1913. Pp. ix, 262. $1.50.

In Problems of Educational Readjustment, Commissioner Snedden singles out particular phases or fields of education for consideration, and these he handles with his exceptionally keen power of analysis. The problems isolated for purposes of analysis and discussion in this volume are: the new education, the new basis of method, liberal education, why study history?, the practical arts in liberal education, differentiated programs of study for older children in elementary schools, the small high school and two chapters on vocational education, one devoted to debatable issues, the other to the psychology of vocational education. There follows a chapter on centralized versus localized administration of public education. The discussions disclose the well-defined views of the author, yet they are not dogmatic in form or spirit. Questions are raised and arguments advanced as partial answers. The reader is made a partner in the thinking. Proposals are advanced and supported, yet difficulties and objections are not ignored. The test of value which the author courts is that of the serviceableness of his proposals at the present time. His method reminds one of a recent reference made by President Hadley to "the positive philosophy of our grandfathers, the evolutionary philosophy of our fathers and the so-called 'pragmatist' philosophy which now appears to have displaced them both." Dr. Snedden believes that there is a new education in the same sense that there is a new industrial order, a new practice of medicine, a new philanthropy; that, while in organizing human experience for the purpose of teaching young children the pedagogical rather than the logical order should receive consideration, with increasing maturity of mind there might well be a gradual shifting of emphasis to the logical; that there is a fundamental difference between vocational education and liberal education corresponding to that between the producer and the consumer; that vocational education and training in the practical arts properly understood contribute to liberal education; that historian's history can be profitable only to ripened students possessed of unusual capacity for abstract thinking; that children twelve to sixteen years of age should be taught in central schools in which there is departmental teaching and differentiated courses to meet the varying educational needs of the young people they receive; that in stimulating interest and appreciation the small high school has a relatively wide field, whereas in the matter of subjects and phases of subjects calling for power in application its limitations are pronounced; that the small high school must restrict its field to what it can do well. The closing chapter suggests safeguards against certain dangers inherent in centralized administration of public education.

Without assuming to speak the final word upon any topic, the writer challenges many generally-accepted views and raises questions which the reader is impelled to join in answering. The book is suggestive, stimulating. It breathes the pioneer spirit in an age which was forgetting that in education there are yet frontiers.

J. H. V. S.

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EDITORIALS

Conditions for Training Secondary Teachers—The Columbia Teachers' College Issue

IF an educational institution exists for the single purpose of training teachers or other professional workers, we expect additional and secondary effects of its work always to be subordinated to this dominant purpose. Some students, not intending to practice law, still prefer completing the law curriculum at the University of Michigan to picking their devious ways through academic departmental tangles to the A.B. goal. This great law faculty has, however, never seriously considered a consequent modification of its effective policy of curriculum design. Still less would it do so for the occasional Liberal Arts students who might seek to leap prerequisite bars to some advanced technical senior or graduate law subject.

Teachers' College of Columbia University has recently put its School of Education on a graduate basis. As Dean Russell says in his latest report, "Unless a department controls a student's time and is responsible for his curriculum, there can be no assurance that satisfactory results will be attained." This laudable desire to develop the student's professional attitude and direct his interests has, as in the case of medical, law and engineering schools, led to the gradual establishment of a definite scheme of training. With such a scheme of training in the case of Teachers' College, some ground work in the history and principles of education, in educational psychology and in other fundamental courses becomes desirable before any student attempts to do the work of the advanced technical courses. Every higher institution for the training of teachers is bound to follow some such course and adopt a similar policy.

Report has it that friction with other graduate departments at Columbia has developed because graduate students of these other departments find restrictions placed upon them in pursuing certain courses in Teachers' College. Other issues are doubtless involved.

The issue should appeal to every school administrator in the country. Can and shall definite schemes of training, teacher-training curriculums of graduate character, be allowed to develop unhampered by academic and scholastic or other historical prejudices as to what are proper functions of colleges and universities and what will suffice for training modern secondary teachers for their tasks?

Teachers' College has been practically our only teacher-training institution of its grade, with the exception, in some respects, of Chicago, sufficiently unhampered by mere academic tradition and traditional university administration to do freely the exploitation work needed in this professional field. It would seem to us that any steps looking toward restricting such exploitations and such large scale experiments would be nothing short of a calamity. Knowing only the fact that there is a serious proposition made to amalgamate still further Teachers' College and Columbia University, if this means to allow Columbia interests to decide such matters as the Teachers' College budget itemization and curriculum policy, one is tempted to ask, For what? By what measure of institutional success is not Columbia indebted to Teachers' College already?

C. H. J.

The Judd-Bagley Controversy

IN the School Review for January, 1915, and in editorials in School and Home Education of September, 1914, and February, 1915, one finds a question of profound educational importance raised—but not answered.

Mr. Bagley has always a chip on his shoulder when the American school system is criticised. Any thoroughgoing reform, whether administrative or pedagogical, raises his suspicions. For example, when the rearrangement of the twelve grades of the traditional system is proposed, as in the 6-2-4, 6-3-3, 6-6 or 6-3-6 schemes, etc., he tends to look more deeply into the eight-grade elementary arrangement to interpret its profoundly democratic significance or possibilities. Even though the reader is sometimes a bit confused as to whether it is the present "significance" or instrumental "possibility" Mr. Bagley is championing, he still is clear that the cause of American democracy and the ideal purpose and present possibility of the prolonged eight-grade elementary school are for the champion inextricably interwoven.

So ardent is Mr. Bagley in refuting proposed arguments for reorganization that he denies European analogies to the junior-senior high school reorganization. Upon this particular point of fact Mr. Judd takes issue, pointing out that the only "system" of education in the important European countries is the secondary system, and that here we do find essentially a three-division curriculum arrangement.

The profound disagreement is, however, another matter. It is clear that, to Mr. Bagley, curriculum differentiation in the upper grades, and even in the ninth and tenth grades, endangers democracy; and that to Mr. Judd, administrative and curriculum changes here are not only administratively desirable and economical, but psychologically necessary—both advocating educational measures in the name of democracy, whatever it may be! The real issue is one of the principle of curriculum designing and of the bases for and the stage in the educational process where curriculum differentiation may be begun. We believe in the principle of intellectual warfare, and are sure that no purposes of strategy will allow the engagement to end in a stalemate. C. H. J.

NEWS NOTE

Preliminary Vocational Survey for Iowa

THE State Department of Public Instruction at Des Moines has printed a pamphlet entitled "Vocational Education and Vocational Guidance" which is really a partial survey of the schools, with particular reference to facts relating to the introduction of vocational education. This report was prepared by a committee of the State Teachers' Association, consisting of Supt. M. G. Clark of Sioux City, chairman; Mrs. Anna L. Burdick of Des Moines, secretary; Dr. W. A. Jessup of the State University; Prof. C. E. Colgrove of the State Teachers' College, and Prof. G. M. Wilson of the State College of Agriculture. The report contains unusually helpful material gathered at first hand, with reference to the attitude of laborer and employers of labor on the question of the introduction of vocational education into the schools. The immediate hearty and favorable response was a surprise to the committee, and another indication that the layman is inclined to outrun the teachers when it comes to educational progress, particularly in the introduction of new subjects into the curriculum.

Another section of the report gives a statistical study with reference to the permanency of agriculture as a vocation. This report shows an unusual permanency for farming. Seventy-eight and four-tenths of the farmers in this study have never engaged in any other occupation, and there are other indications that farming is an occupation of unusual permanency. This, taken with the further fact that in Iowa, as in many other States of the Union, 50 per cent. or more of the population are engaged in, or directly interested in, farming, requires that much weight should be given to these facts in shaping any system of vocational education for the State.

The report also contains an extended study with reference to the amount of elimination of pupils from the schools in Iowa. This study reviews the significant previous studies with reference to elimination, contains a further study of 29 cities and 291 country schools in Iowa, together with a complete study of one entire county in Iowa. The result of the study tends to show that Iowa is slightly better, but only a very little better, than other States or other parts of the country so far as they have been covered by such studies on elimination.

The above are some of the more significant features of the report, which contains, in addition, a discussion of vocational guidance and a general discussion of the theory underlying vocational education. Copies of this report are available for distribution.

J. M. Moore.

BOOKS RECEIVED TO FEBRUARY 1, 1915.

(*More extended reviews of some of these books may be expected in later issues.*)

W. C. Bagley and Others. *Report of the Conference on Teachers' Institutes.* Bulletin II, University of Illinois, School of Education Series, Urbana, 1914, pp. 23.

This educational conference, held at the University during the Summer Session of 1914, included the plan of making use, for purposes of illustration and demonstration, of a joint institute of Champaign and Piatt counties, the University and the two counties sharing the expense. The sessions of the institute and of the conference were held in University buildings.

In addition to full outlines of each day's work in each session, the bulletin contains the resolutions adopted by the conference, in the form of thirteen articles. These represent the "net" opinion of members of the conference as to what should be a "tentative basis for practice in the organization and conduct of institutes."

Frank W. Ballou. *Educational Standards and Educational Measurements.* Bulletin No. III of the Department of Educational Investigation and Measurement. Boston Public Schools, 1914. Pp. 21.

This pamphlet is a report of the address of the director, outlining in some detail the proposed work of the new department. It is addressed to the principals in the city system, "with the intention that they transmit the leading ideas to the teachers," and is therefore of particular interest.

Among other things, says Superintendent Dyer, it is hoped that this new department may be able to help "reduce drills to a minimum of time and effort, and thereby preserve the teacher's energies for the higher purposes of teaching."

Henry S. Curtis. *Education Through Play.* New York: The Macmillan Company, 1915. Pp. xix, 359.

The fields of public recreation and the play of little children in the home are omitted. With these delimitations the book "is written with the conviction that the play of school children is a school problem," and that "this play problem of the school children is the chief play problem of our cities." The author has personally visited every play system of any considerable size in this country.

JESSE BUTTRICK DAVIS. *Vocational and Moral Guidance.* Boston: Ginn & Co., 1914. Pp. viii, 303. $1.25.

This significant book is to receive extended notice.

L. T. HANIFAN. *A Handbook Containing Suggestions and Programs for Community Social Gatherings.* Office of State Superintendent, Charleston, W. Va., 1914. Pp. 54.

This handbook contains outlines and suggestions of how the majority of teachers, especially country teachers, may procure for their communities social recreational and cultural benefits entirely in addition to their traditional and still necessary function of "keeping order" and "hearing recitations." It is based upon the experiences of many teachers who have worked out some such programs for themselves.

JOHN HAINES. *Economics in the High School.* Boston: Houghton-Mifflin Co., 1914. Pp. xii, 93.

To be reviewed later.

JOHN KENNEDY. *The Batavia System of Individual Instruction.* Syracuse: C. W. Bardeen, Publisher. Pp. 299.

The volume consists of a collection of various newspaper and other discussions of the system of varying degrees of value and not systematically arranged with reference to systematic analysis and critical interpretation.

ERVIN E. LEWIS. *Work, Wages and School of Eight Hundred Iowa Boys.* Bulletin of the University of Iowa, No. 9, February, 1915. Pp. 32.

An intensive study of 800 Iowa boys who dropped out of school, with reference to their age and grade at the time of leaving school, the location of the school they last attended, reasons for leaving school, how they found their first jobs, number of jobs they have had since leaving school, length of time spent in each job, reasons assigned for changing jobs, and beginning wages. Correlation tables are presented, showing the relation between the grade left and the beginning wage, between age at the time of withdrawal and the beginning wage, and between years of experience and wages.

WILLIAM D. LEWIS. *Democracy's High School.* Boston: Houghton-Mifflin Co., 1914. Pp. xii, 130. 60 cents.

To be reviewed later.

A. C. Monahan. *County-Unit Organization for the Administration of Rural Schools.* Washington: United States Bureau of Education. Bulletin No. 44, 1914. Pp. 56.

This bulletin contains a searching analysis of the strengths and weaknesses of the district, township and county units. The county unit is advocated because it provides an opportunity for more efficient supervision, equalizes the tax rate and permits economical distribution of school buildings.

W. S. Learned. *The Oberlehrer.* Cambridge: Harvard University Press, Vol. I. Harvard Studies in Education, 1914. Pp. xi, 150. $1.50.

This interesting and valuable description of the development of the professional spirit of secondary teachers will be commented upon in more detail in a later issue.

Henry Noble MacCracken. *The College Chaucer.* New Haven: Yale University Press, 1913. $1.50 net.

President MacCracken's *College Chaucer* has an advantage over the Globe and Oxford one-volume Chaucers, in that it presents a clearly-printed page, with wide margins. It is furnished with an introduction which, though brief, will be found sufficient for most classes, and with a glossary, which gives much information ordinarily to be found in notes. "The College Chaucer aims to provide, with due regard to the moderate size, attractive page and readable print required in a modern textbook, as much of Chaucer as can be given in a single volume."

Frances M. Morehouse. *Discipline of the School.* With an Introduction by L. D. Coffman. New York: D. C. Heath & Co., 1914. Pp. 360. $1.25.

This is a practical discussion of the problems of school discipline. The author has drawn on her experience under a wide variety of conditions, and has set forth the fundamental principles of school discipline and given an abundance of applications and illustrations. The book will appeal with special force to teachers' reading circles, training classes and normal schools.

By far the greater part of the space is devoted to the problem of discipline in elementary schools. Attention is given to the question of discipline in secondary schools and to the peculiar problems affecting it.

A more critical review may be expected.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

Vocational Education for New York City*

By C. A. Prosser

Secretary of the National Society for the Promotion of Industrial Education

WE have all heard the story of the man who had a dollar so close to his eyes that he could not see the sun. There is very great danger that in our enthusiasm for this, that or the other excellent scheme or plan of vocational education we will lose sight not only of the problem as a whole, but of other schemes and plans equally excellent and equally necessary. Any intelligent and comprehensive approach to the question as it presents itself in its bigness in New York City should begin with a recognition of the many different groups of people whose rights must be served and whose needs must be met.

The workers of New York City, both present and future, differ greatly from each other in ability, in preparation, in interest, in aptitude, in opportunities and in ambition. It would be unjust and narrow to adopt on an extensive scale any one scheme or plan which met the needs of some and to neglect at the same time those of all the rest. There is but one guiding star to follow in promoting vocational education here or elsewhere. We must give those whom we are to reach what they need and what they want, not what we think they ought to want.

Before we can adopt devices for meeting the vocational needs of the present and prospective workers of the city we must first have a clear understanding of the different kinds and groups of persons to be trained.

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*Extracts from an address before the Industrial Conference for New York City, June 29, 1914.

Here are more than 50,000 children over twelve years of age who, somewhere near their fifteenth birthday, must make a choice of work upon which they will enter at once or for which they will take more training through the schools. New York City has already begun the development of pre-vocational classes through which, by coming in contact with real experience drawn from the world of work, these children may come to know what they want to do and what they are fitted to do, so that they can define the choice of a vocation. The excellent beginning which has already been made should not cease until these opportunities have been opened up to every child who is not destined for a college and professional career.

Here is another large army of thousands of children who do not wish to attend the regular high school nor to enter at such an early age upon wage-earning. Their parents desire them to continue their education longer in school, and want them to receive training which will advance them in the direction of successful employment when they leave the schools. These children are of two different classes. Some of them want direct preparation for some trade or occupation upon which they can enter to advantage after they become sixteen years of age or more. For them we need to establish separate industrial and trade schools like the Manhattan Trade School for Girls.

Some of them, and their number is legion, have not yet made up their minds what vocation they wish to follow. They want to extend their general education and to gain industrial experience and insight which will enable them when they face the problem of employment to make an intelligent choice of work and follow it with some understanding of its problems gained through the schools. For these we need the development of general industrial or vocational schools like the New York Vocational School for Boys.

Here is a great army of children, 40,000 or more in number, leaving the schools every year to become bread-winners at fourteen years of age. Up to this time we have utterly neglected the educational rights and needs of these children as soon as they left the regular schools to become wage-earners. Perhaps the most important problem before any American city at the present time is the development of continuation schools which will reach these young workers. They may be roughly grouped into four classes.

A small number, much less than 5 per cent., are engaged in vocations which offer opportunities for the future, and for which the schools can give valuable supplementary training.

We need to establish continuation schools claiming a portion of the time of these children for further training which will increase their proficiency in their work if they desire it.

A second group, and the most neglected, is made up of children who left the schools below grade, most of them not having passed beyond the sixth year of the elementary schools. We need continuation school instruction for these, which will give further training in the elementary school processes and develop general and civic intelligence.

The third group finished the elementary school course and now desire to continue general education as the way out to efficiency and happiness. We need to offer them in the time we can secure away from their employment an opportunity to pursue further whatever studies they may desire.

A fourth group are engaged in dead-end or blind-alley jobs, but have buried within them ability and skill for some desirable trade. Continuation schools should offer opportunities through pre-vocational training for these to learn what trade they should follow, and then should, so far as time permits, give them training for it.

Here are thousands of young persons between sixteen and twenty-one years of age who are employed as apprentices or otherwise in the skilled trades and vocations in New York City. We need to establish part-time schools and classes in order to give these young workers a chance to secure the preparation necessary for the widest proficiency in their employment, giving an avenue out to better wage, promotion and leadership.

Here are thousands of adult workers over twenty-one years of age who are employed in the unskilled, semi-skilled and skilled work of the city. Three groups present themselves. There are the men and women, many of them foreign-born, who want more general education. Some of them want to learn our language. Some want such things as arithmetic, and some want other general night school courses. Some want an opportunity to express themselves in art. General evening classes should minister to their needs. There are the men and women who want advanced technical instruction for the trades in which they are engaged. These should have the benefit of general evening technical classes of a very practical character, such as are now offered in some of the New York evening schools, and in such institutions as the Mechanics Institute, Cooper Union and Pratt Institute.

There are the ordinary workers in the trade who want to learn new machines or new processes which require a greater knowledge of the related studies that will assist them in the ordinary work of their callings. For these we need to establish separate classes which will give the short and brief courses necessary to serve the interests of specific groups in overalls. They are the bone and sinew of our manufacturing life.

There is a growing feeling throughout the country that as long as children under sixteen years of age are employed in industry, legislation should provide for compulsory instruction in continuation classes for them. In Wisconsin a State-wide compulsory law of this character has already gone into effect, and has resulted in the large attendance on the Wisconsin continuation schools. Massachusetts, New York and Indiana have local option laws which authorize boards of education to establish classes compulsory upon working children under sixteen. Thus far Boston has been the one city in all these States which has through its school committee adopted these compulsory classes. These will go into effect on September 1 of the present year (1914).

Two years ago I had the pleasure of being associated with Mr. Arthur Dean, chief of the Division of Trade Schools for New York State, in drawing and securing passage for a local option law which authorizes any city in New York State to maintain such compulsory classes and to require the attendance upon them of employed children between fourteen and sixteen years of age for not less than four nor more than eight hours per week between 8 A. M. and 5 P. M.

This measure was known as the Wilmot bill, having been introduced by Senator Wilmot. Its passage was greatly aided by many different civic agencies, and had the hearty support of the New York public school authorities, the act being approved by President Churchill, Superintendent Maxwell and Mayor Gaynor before being signed by the Governor. Probably no measure ever passed by the Legislature gave greater power into the hands of the Board of Education of New York City than the Wilmot bill.

Under its provisions the Board of Education may establish and make compulsory the attendance upon continuation schools in any way it chooses. It may promote the work by making it compulsory upon specific nationalities or races, borough, industrial areas. The Board is empowered to select the children according to age, or health, or employment, or previous schooling, or grade of school attained, or upon any other basis which it may deem advisable. It would be possible under this act for the school authorities to single out one special group of fifteen children and require them to attend such classes.

One of the moving causes for this bill and for the hearty support which it received in New York City was the fact that it promised a substitute for the present utterly indefensible statute requiring the attendance upon evening classes of children under sixteen years of age who are employed during the day. These children, after long hours of labor in the factories, are compelled by law to attend evening school instruction.

The reports of District Superintendent Shiels and of City Superintendent Maxwell on the evening school during the last two or three years point out that it is not possible to enforce the law with the present force of attendance officers; that less than 25 per cent. of the children who come within the purview of the statute attend the evening schools; that they fall asleep at their desks, and that physicians and social workers are agreed that such evening school attendance for these children results in far more physical ill than it gives educational benefit.

There are but two escapes from this situation. One is to raise the age of compulsory school attendance to sixteen. For this step New York does not as yet seem ready. The other is to require employers to give these children an opportunity to attend continuation classes during the day.

Although this law has been in operation for over a year, not one single compulsory class has been established in New York. The problem facing the public school authorities is an exceedingly difficult one. They are not prepared to make the attendance compulsory upon from 50,000 to 80,000 children, which would be necessary if they attempted a general enforcement of compulsory attendance. If they pick out specific groups of children or the children from specific vocations, the charge of discrimination and favoritism would be made.

The public school authorities have concluded up to this time to attempt the development of this continuation work on a persuasive and voluntary basis. Here and there encouraging results have already been secured, but the response to the voluntary appeals has, to say the least, considering the great magnitude of the task, not been very encouraging. At the present rate of progress New York will require a quarter of a century to deal with the problem.

Personally, I favor an amendment of the present act so as to provide that within five years from the passage of the amendment the attendance upon such continuation classes will be made compulsory for the entire State. This will stimulate all local Boards of Education, including the New York City Board, to begin to deal with the problem in an experimental way in order that they may learn how to handle it in a large way when State-wide compulsion ensues. It will at the same time give due notice to local employers of the step which is to be taken at a later date in the enforcement of the act on a State-wide basis and stimulate them to deal in a co-operative way with the local authorities now, so that they may be in a position to meet the expansion of the act.

In my opinion, it is advisable to develop pre-vocational centers and all-day industrial and trade schools by industrial and commercial areas, choosing those that furnish the most promising opportunities. Continuation and part-time schools, on the other hand, should be spread out over all the five boroughs in order to take advantage of every possible opportunity of inducing employers to co-operate.

The effort to reach working people in evening schools should also be made through classes that are offered at points favorable to workingmen in all the five boroughs.

CO-OPERATION WITH THE INDUSTRY.

In the ancient days master and workman felt and discharged a common duty and responsibility for the training of the workers in order that the integrity of the craft might be preserved. Modern industry shows a very decided tendency to throw the entire burden of expense and trouble of every kind on the schools. Part of this is, of course, due to the fact that the schools have not yet been able to present to modern industry a promising program of co-operation.

It is certain that the schoolmen cannot solve this problem by themselves. They must have the close and intimate help of employers and employes in the trades and vocations in dealing with the question. Time will not permit here any detail description of ways in which this can be done. Representatives of the trades ought, and I think will be willing, not only to confer with the public school authorities, but to serve without compensation on committees, provided the public school authorities recognize the work of such committees by using the information and the recommendations which they offer.

With the school authorities as the third part, an increasing number of employers and trades-unions will be willing to confer together upon ways and means by which they can aid the schools in the training of workers. A growing number of employers will find themselves willing to recognize educational training by larger wage and to go to the trouble to so organize their work as to offer their young workers time away from their employment for other training.

The expense of vocational education in New York City when developed to the full would be enormous if all of it were undertaken by the schools. The vocations themselves must bear a part of the cost. Shops must offer the opportunity for the shop training, leaving the schools to give related instruction. In many cases shops and factories and commercial houses must provide facilities for classroom instruction under the roof of the plant. Where great industries like the garment trade draw together large numbers of workers into unions having large resources, employers and unions should be asked wherever possible to undertake to a large extent at least the joint burden and responsibility of training their own workers.

TAKING MAHOMET TO THE MOUNTAIN.

The establishment of vocational education in the community required a campaign of promotion at the outset. Public sentiment must be roused, the value of the work must be set forth, the advantages of the schools advertised. Schools and classes must be located at favorable points. We must carry the facilities for training close to the worker. Whenever necessary, we must take the training into the very shop where he is employed, always with the reservation that the training paid for at the public expense must be controlled and supervised by representatives of the public.

A distinctive management for vocational education within the school system through a separate department charged with the duty and responsibility for its success. The employment of expert service in administration and supervision, with large power of recommendation, initiative and direction. The establishment of machinery bringing employers and employes into hearty co-operation with the vocational work of the schools and using the practical advice and assistance which they contribute. A search after the many different kinds and groups of persons—young and old—not yet reached, but needing the help of the schools and the beginning of schemes of training to reach them. A recognition of the duty and responsibility of the vocations themselves, particularly the larger ones, of bearing a share of the task of training their own workers. Large emphasis at the present time on the promotion of part-time and continuation classes for wage-earners, who are so numerous and so long neglected. A legitimate campaign for vocational education which will bring its benefits close to the workers and carry its facilities wherever necessary to reach them. These are essential features of the program for New York City.

Present Tendencies in Supervised Study

By Alfred L. Hall-Quest

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AMONG the many problems that rightly claim expert and scientific attention in the American school system none is more fundamental and, when rightly solved, more revolutionary than a classroom management dominated by supervised study. There are critics a-plenty who are in accord with certain newspapers and periodicals in decrying the modern school in practically all of its administrative phases. It is interesting to note, however, that in this fault-finding very little is said about teaching children to study. In the large per cent. of cases the trouble lies near at home. The taxpayer and the parent in all too many instances are responsible for some of the defects in the public school. For example, instance after instance might be cited where teachers have been eager for supervised study of some type, but parents have insisted upon the old type of recitation, have demanded a large amount of home study, have sneered at modern school fads and said: ''The old education was good enough for us—it is good enough for our children.''

The drift away from this so-called old education, however, is gradually becoming impressive. Scientific methods are supplanting traditional and emotional schemes of instruction. Out of a formerly rigid, mass method of teaching there is rising a more just, a more discriminating emphasis on individual differences. The child is no longer a small unit in a large group. Mental types are being recognized, individual types of reaction to the same subject-matter are being analyzed. The individual pupil is now being studied as possibly different from his classmates, and therefore requiring treatment or method of instruction quite varied from that adequate for the other members of the class. Some pupils work faster than others, but are not necessarily brighter.

These and similar considerations form the background of what is technically known as supervised study. In directing a pupil's methods of study one does not necessarily give him a pair of crutches. In fact, at present, it is by no means exceptional for fond parents to write the essays and work the problems and do sundry other school tasks for their young hopefuls. The writer visited a school exhibit recently at which, among other school products, were displayed several rabbit-traps supposed to have been made by boys about eleven years old. Three of the ten traps were beautifully dressed, perfectly squared, nicely ornamented—in fact, quite worthy of a William Morris. A boy of eleven doing such work! The trap that won first prize was a rustic affair—old boards, untrimmed sticks, rusty nails, a soiled piece of butcher's twine being part of its make-up. But it worked! The night before the boy had caught two rabbits in that trap. Furthermore, *he* had made it. It was just the kind of trap that Huckelberry Finn or the modern Penrod might have made. Ambitious parents had made the others. Supervised study does not mean making the boy's rabbit-traps and letting him call the product his own. Supervised study does mean instructing the boy how to make such a trap, watching him at work, preventing energy and time-losing mistakes, and with it all training him in persevering, thorough work. In other words, supervised study is that method of instruction whereby each individual pupil in a class receives adequate direction in learning according to his own mental habits. It is not doing for the child what he should do for himself, but it is showing him how to do economically what he has been assigned to do.

For the purpose of ascertaining as accurately as such methods might allow the present tendencies in this type of teaching, the writer has carried on two lines of investigation. First, all available literture on supervised study has been carefully read and lists made of the various kinds of supervised study now employed throughout the United States; and second, by means of a postal card questionnaire sent to nearly a thousand high school principals information has been obtained about more additional administrative schemes for dealing with this problem.

The results of this twofold investigation are given below. Inasmuch as some of the information gleaned from the literature on the subject is contained in the tabulations of the postal-card answers, the latter will be given first, and in the final summary all the different methods will be listed.

THE POSTAL CARD QUESTIONNAIRE.

The following questions were sent to 969 high school principals in every State of the Union. Selections of schools were made on the following basis: Cards were sent to every school accredited by the North Central Association, to every school of the New England Association and by random selection to high schools in all the other States. (Some private schools were included.) Five hundred and thirty-two replies from thirty-three States were received. Table I, column 1, shows the distribution. Ohio, Illinois, Wisconsin, Michigan and Kansas sent the largest number of replies.

Table I contains the totals of replies to the following questions:

1. Have you Supervised Study in your school?
2. How long have you had Supervised Study? (Not important enough to tabulate.)
3. Please check which of the following methods of study supervision you use:

(a) A period in the assembly-room presided over by teachers in turn.

(b) A study period for each subject supervised by the teacher of that subject.

(c) Part of the recitation period devoted to supervised study.

(d) Personal conference at stated hours or by appointment.

In the table S.S. = supervised study; B= study period for each subject supervised by the teacher of that subject; C = part of recitation period devoted to supervised study; ES = stated conference; EA = conference by appointment; Eboth = having stated and appointed conference.

Other tables show the various combinations. Table I shows the general tendency. Four hundred and sixty-five schools out of 532 have supervised study in some form, but of these 465, 439 use the Assembly Hall period, with its usual method of one teacher in charge. Seventy-five schools in addition to the Assembly Hall use B or a study period for each subject; 150 in addition to the Assembly Hall devote part of the recitation period to directing the pupils' habits of study, while 116 and 137 use either conference plan and 119 have both plans of the conference hour in addition to the Assembly Hall. Eighty-seven per cent. claim that they have supervised study.

TABLE I.

States.	No. Schools.	Have S.S.	Have no S.S.	Assembly Hall.	B.	C.	ES. Only.	EA. Only.	Both E.
Colorado	19	17	2	17	3	6	5	2	6
Connecticut	5	4	1	1	..	..	1	2	..
Georgia	2	2	..	1	1	..	..	1	..
Illinois	63	52	11	52	12	24	16	16	18
Indiana	22	20	2	18	3	8	5	6	7
Iowa	25	22	3	23	1	6	6	11	4
Kansas	39	36	3	29	6	7	8	11	10
Maine	18	16	2	12	3	2	2	4	4
Massachusetts	13	8	5	8	2	..	1	1	1
Michigan	46	44	2	44	8	17	15	7	11
Minnesota	29	15	5	14	1	5	3	6	3
Mississippi	2	2	..	2	2	1	1	1	..
Nevada	2	2	..	2	..	1	..	..	..
Missouri	14	12	2	9	..	2	2	2	1
Montana	3	3	..	3	1	1	1	..	2
Florida	4	4	..	4	1	..	..	2	2
California	5	5	..	5	2	2	2	1	1
Idaho	4	3	1	3	1	..	1	1	1
New Hampshire	2	2	..	2	1	2	..	1	1
Nebraska	20	18	2	18	3	6	4	7	3
North Dakota	12	9	3	9	7	2	4	3	3
New York	24	22	2	16	2	6	3	3	5
New Jersey	8	7	1	6	11	2	2	1	3
Ohio	79	72	7	68	1	27	12	29	14
Oklahoma	7	4	3	4	1	2	1	2	3
West Virginia	3	3	..	3	..	1	..	3	..
Pennsylvania	3	3	..	1	..	1	..	1	1
Rhode Island	3	1	2	1	..	1	..	1	..
South Dakota	6	4	2	3	..	1	2	1	2
Wisconsin	53	49	4	49	7	15	17	8	13
Washington, D. C.	1	1	..	1	1	1	..	1	..
Wyoming	1	1	..	1	..	..	1	..	..
Delaware	1	..	1	..	..	..	..	..	..
Washington	3	2	1	2	1	1	1	1	..
Totals	532	465	67	439	73	150	116	137	119

Of these 87 per cent. or 465, 92 per cent. use the Assembly Hall, 16 per cent. have a special period for each subject, 37 per cent. modify the usual recitation by directing study, 25 per cent., 29 per cent. and 26 per cent. give time for some form of the conference plan.

The following tables indicate the variety of methods employed in the several general schemes of study direction:

Variety of Methods in the Direction of the Assembly Hall.

TABLE II.

In charge of librarian and assistant	1
Study period at close of school	1
Three teachers in charge	1
In charge of the Principal	2
One teacher for every 50 pupils	1
Open 7.30-9.00 every P. M. five evenings a week	1
Presided over by special Assembly Hall teacher	1
Presided over by Assembly Hall monitors	1
Special person in Assembly Hall all day	2
Assistant principal in charge all day	1
For Freshmen only	2
For Mechanical Drawing and Bookkeeping	1
English all year	1
For History only	1
Partial time	1
In charge of student government	1

The significance of this table does not lie in the numbers, but in the variety. Most of the schools did not specify how the Assembly Hour was conducted. From those answering it will be seen that there is considerable diversity of method.

Variety of Methods of the B or Supervised-Study-Once-a-Week Plan.

TABLE III.

Occasionally	4
For some cases	5
For some subjects	6
In the grades only	4
In Algebra and beginning English	1
In Physics	1
Once a week	1
For laggards only	1
For Latin	1
Eighth period daily by T. of subject	1
In seventh and eighth grades. T. assigned group	1
All Mathematics and Science	1
First term only	2
Depends on teachers	1
In Mathematics only	1
Two periods daily	1
Sixth, seventh and ninth grades	1
In the sciences	1
Wherever possible	1
Above the age of 14	1
Such periods in charge of Math. T.	1

It is noticeable that wherever subjects are mentioned mathematics and the sciences receive more attention than the others. History seems more neglected than any other of the usual subjects, this conclusion being based not on this particular table, but on the whole investigation.

Variations of the C Plan or the Divided Recitation Period.

TABLE IV.

In Algebra only	1
Sometimes	31
Some classes	11
Early part of term	1
As teachers desire	5
One out of five recitations	1
In seventh and eighth grades	3
In eighth grade	1
For Freshmen only	2
Nearly all grade subjects	1
Rarely	3
Science one-third time	1
Grades only	3
Double period, several subjects	1
Double period, Zoology	1
Double period, Physics	1
Double period, Language and Mathematics	1
Some lower grades	1
Mathematics regularly	1
Frequently	3

Striking examples of this type of supervised study are found in the high schools of Newark, N. J., and Joilet, Ill., the latter school employing the double period in the first two high school years. These plans are discussed in more detail elsewhere in this article.

Miscellaneous Methods.

TABLE V.

One-half of teachers have one study period daily	1
Special room for study only	2
Talk on "how to study" at beginning of term	1
Teach "how to study" in the assignment	1
Outline of next day given	1
Pupils obliged to study while recitation is going on	2
Special consultation rooms	1
All forms of supervised study under varying conditions	2
School day lengthened from 8.30-12.30 and 1.15-4.15	1
School day lengthened from 8.00-4.30	1
One 45-minute period for supervised study every Wednesday	1
Endeavor to supervise study by watching individuals	1
Questionnaire to pupils about difficulties, and then conference	2
Consultation slip to unoccupied teacher by Assembly Hall teacher	1
Open book work in preparing lessons with teacher	1

Teachers meet weak pupils before and after school	1
Each English teacher two conferences daily	1
Supervised study in summer only	1
Extra study period after school as discipline	1
Senior and Freshmen have different seats	1
Keep in touch with pupils' homes	2
One-half hour each day all teachers remain for conference on study	1
Best pupils help weak after school hours	1
Supervision of current reading on class topics	1
One hour daily for supervised study	1
Study period 8.40-9.15 for sections reciting at 9.15	1
Groups of from 50-75 with teacher in charge	1
Study period 8.20-8.50 A. M. and 3.45-4.15 P. M. for weak pupils	1
All Freshmen in 20-pupil groups or in groups of 24-35	1

The foregoing tables are hopeful indications that principals and teachers are attempting some solution of the problem of study supervision. A more extended survey of each State or by each county or by each city would doubtless reveal a much larger number of schools with some organization of supervised study.

THE VARIOUS SCHEMES OF SUPERVISED STUDY SUMMARIZED.

From the foregoing tables and from other sources the following fairly complete list of methods of study supervised has been made.

1. *The usual Assembly Hall method* with one or more persons in charge, these persons being either the principal, a regular teacher, a special study-hall teacher, monitors or persons selected by student government.

2. *The various conference plans,* stated and appointed, conducted either by the principal or each teacher or by teachers assigned for this purpose and held at various hours of the day, immediately before and immediately after school being the usual time, such conferences being also in many cases limited to only one or a few subjects.

3. *Supervised study for each subject once a week,* directed usually by each teacher of the subject, but in some cases in charge of a specially assigned teacher. This plan is well developed in De Kalb, Ill.

4. *Each recitation divided between reciting and study,* either half and half, as in Newark, N. J., or a flexible amount of time for each method, or a double period, as especially evolved in Joliet, Ill. In this plan a great deal of time is spent

on the assignment, and the whole recitation is a blend of hearing lessons and teaching pupils how to study the lesson just assigned, the greater part of the time, however, being devoted to the latter. In Joliet, where the double period is employed, the first forty minutes are spent in reviewing the previous day's work and in presenting new material. In other words, the first period is given over to various lesson types, but the second period, immediately following and just as long, is entirely a Study lesson. The teacher gives attention to every pupil requiring special treatment. The teacher does not wait for the pupils to call on her, but she visits each desk, and when she discovers that the pupil is employing the wrong method, a quiet conference or individual lesson is then given, the other pupils in no way failing to observe discipline. In Joliet this method is used in mathematics, the modern languages, history and the sciences during the first two years.

In Columbia, Mo., there is only a minimum of recitation, the greater part of the time being devoted to the pupils' individual work, various problems, many of them pertaining to local interests, being treated by pupils working in groups. Reports are read to the class and then discussed and criticised. This is a form of the group system recommended by Miss Jones in her little book, "Teaching Children How to Study."

5. *The Study-coach or Unassigned Teacher.* According to this plan one teacher devotes all of her or his time to the supervision of study. Although somewhat similar in general method, there is a slight difference between a study-coach and an unassigned teacher.

(a) *The study-coach* has an office where pupils may have conferences throughout the school-day on the difficulties met with in all of their work. Without destroying initiative, the study-coach guides the pupils in the selection of right methods of work, helps them to discover their weaknesses and emphasizes points that in the class are either taken for granted by the teacher or in the midst of other details easily overlooked. The study-coach is able to obtain from the pupils a more frank and thoroughgoing admission of inability than is possible or perhaps advisable in a large class. By keeping a record of the various types of difficulties met with in the various subjects without, however, repeating the more personal confidences necessary in this type of supervision, the study-coach can give to the several teachers important criticism on teaching methods. It must be borne in mind, of course, that pupils often will criticise teachers unjustly and for purely selfish reasons. The study-coach worthy of the name, however, will be able to detect quite easily this type of pupil and treat him accordingly. Here as elsewhere discrimination is essential. No system works itself. Reason and judgment must control.

(b) *The unassigned teacher* has duties somewhat more uniform. As illustrated in Newton, Mass., the unassigned teacher has regular hours at which pupils of different types of difficulties meet for special assistance. At 9 o'clock, for example, a group of boys retarded by long absence on account of illness, and consequently entitled to additional help, are sent to the unassigned teacher for coaching until their progress enables them to rejoin their class. At 10 o'clock a little girl having difficulties with arithmetic is given a private lesson. At 10.30 an older girl ahead of her class, but not quite ready for promotion, is coached on the few necessary points that will fit her for the next class. In this way the unassigned teacher is busy throughout the day. Various types of difficulties are treated in groups. Each child is given clinical treatment, records kept of the difficulties, the time needed for this extra work, etc. This is scientific management of individual differences.

6. *The eclectic plan,* by which various types of study supervision are included in the general supervision. In English, for example, the study period once a week is used; in algebra, the divided period. This choice of methods is left with each teacher. Cairo, Ill., is a striking example of this plan.

7. *The occasional supervision of study* for retards or those deficient in class standing is common, as shown by the various tables. At first this seems economical and sufficient. It is, however, the usual practise of helping the failures, of curing instead of preventing. In place of being really a help, it is a hindrance. Some failures, to be sure, are unavoidable, as in sickness, but other failures due to difficulty of the subject or to a lack of application and interest can be prevented by a well-

organized system of study-supervision as part of the regular day's work. One principal told the writer that he did not intend to have any more repeaters in his school. On being asked how he expected to prevent them, he replied that he would add more teachers and would increase the amount of study-supervision. Better to spend money this way than to increase the cost of education by stopping leaks. It is far better to have a sound intellectual structure, a sound educational system in the first place.

CERTAIN IMPLICATIONS INVOLVED IN SUPERVISED STUDY.

1. Obviously the methods of teaching will undergo considerable change when the emphasis is transferred to that of the pupil's point of view. It is true that the various types of curricula have the pupil in mind, but even with a highly specialized program of studies there will be needed within each course a careful attention to how pupils work. There will be less class teaching, more study lessons, saner examinations, a larger amount of co-operation between teacher and pupil.

2. The foregoing implication is doubtless readily accepted. The next one, however, will be generally disputed. An adequate system of study supervision implies a minimum amount of home study. It is at this point that many parents object. They want their children kept busy, not understanding that if rightly occupied in the school the child is entitled to freedom after school hours for play, minor diversions, reading and social pastimes. The old barbarism of having children carry home a small library is still in evidence in many communities. Teachers under this system assign lessons regardless of the assignments by other teachers, the result being that the pupil is crowded with work and will either overtax himself in filling the requirements or neglect most, if not all, the lessons, with consequent low standing or failure.

When study is concentrated during the regular school hours, time and mental strength are saved. Lessons learned under the teacher's supervision do not need additional home attention. Time out of school can then be devoted to those interests which now must be neglected. In many cases homes are unfit hygienically for successful studying. The frequency and the nature of distractions, quite unavoidable in most homes, make intense mental effort almost impossible. In the school, however, where light, heat and imitation help to promote studying, a reasonable amount of success is assured.

3. This means also that the school-day will need to be lengthened. The tables in this article indicate that some schools have already adopted the longer day. In Alameda, Cal.; Joliet, Ill., and Neodesha, Kan., to cite only a few cases, the day has been lengthened until 4.15 or 4.30. Reciting and studying are completed in this time. The pupils spend the remainder of the day outdoors or engaged in home affairs. Seniors are profitably given certain general assignments of cultural reading or assignments calling for original work, but in the first three high school years or throughout the junior high school time is spent in training pupils how to study. If learned in these years intellectual effort not only in the higher courses, but in some bread-earning occupation would be easier and of a better quality.

RESULTS OF SUPERVISED STUDY.

Unfortunately, it is difficult to find many teachers and principals who have kept adequate records of the results of this new type of class management. There are a few, however, who in various ways have indicated what they regard as worth-while results.

In the summer of 1912 while teaching at the Summer School of Columbia University Dr. Chas. Hughes Johnston found opportunity to get from several high school principals reactions on this method of teaching. A composite list of these reactions from principals who had some experience with the method is as follows: (1) It saves time; (2) prevents waste of energy; (3) makes for definiteness; (4) allows leisure for extra school work, family life, athletics, music, art, reading, social and religious activities without neglecting school work; (5) teaches children how to use their minds; (6) gives pupils a working day the same as people generally have; (7) aids discipline by keeping the child active all the time; (8) reduces the reiteration plan of recitation to a minimum; (9) makes the classroom a live workshop; (10) inspires pupils to study because they know how; (11) provides an atmosphere of study—everybody's doing it; (12) brings about a better mutual understanding between teacher and individual pupil; (13) because of better prepared lessons it relieves the teacher of the sense of failure in her teaching; (14) reduces the amount of home study in the grades and the first two years of high school.

H. E. Webb in *The Pivot,* published by the Central High School of Newark, N. J., writes of the general results of the directed study period in that school. Briefly summarized, his comments are as follows: (1) Earnest, sincere students now had the chance they had long deserved and were given the first place in the teacher's attention, regardless of their innate abilities. (2) Idlers showed their character very quickly, and no amount of smartness could conceal it. The great majority of them, therefore, set about to change it by the simple expedient of going to work. (3) A large number of idlers went to work during the study conferences because there was nothing else to do, and surprised themselves by finding that they enjoyed it. (4) Teachers found the character of the other part of the period (the method in this school is the divided recitation period already referred to) changing, owing, to their better acquaintance with their pupils, and the fact that the general policy of the school is one of helpfulness rather than of repression. (5) Students were not slow to appreciate the fact that with the teacher at hand to help over the hard places it was well worth while to concentrate on one study at a time and to economize the classroom hour to the utmost.

A more detailed statement of the results in this same school are stated by the principal, Mr. Wiener, in his chapter in *The Modern High School* by Johnston and others. A sample

TABLES OF TOTALS FOR ENGLISH.

Name of Teachers.	Number on Roll.	Number Promoted.	Per Cent.
Alden	174	154	88.5
Goldstein	185	157	84.8
Snodgrass	199	182	91.4
Holt	24	24	100.0
Denton	24	17	70.8
Rich	199	125	62.8
Muhlman	185	147	74.4
Herzberg	168	155	92.2

of the tables there printed is given here. The teacher who promoted the fewest pupils did not use supervised study at all. Those who used it only indifferently had average results, whereas the teachers who emphasized supervised study had the best promotion records. The general tendency of tables indicating results in other subjects is the same. It will be noted that classes not having supervised study achieve 62.2 and 74.4 per cent. of promotions. The enrollments here given are, of course, totals of all the classes taught by each teacher named.

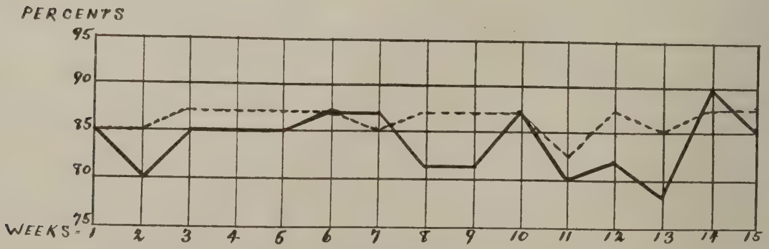
So far as the writer knows, the most elaborate employment of supervised study is found in the high school of Joliet, Ill., where the double period is in vogue for the first two years in the high school. In a recent article in *School and Home Education* for February, 1915, Dr. J. Stanley Brown, the principal of this school, writes: "I have kept for the past ten semesters the percentage of failures in the various subjects taught by the various teachers. Every teacher is required to make a report at the close of the semester showing these things in every class, viz.: the number originally enrolled in the class, the number in the class at the close of the semester, the number passed at the close of the semester, the number failed with the names of each and the cause of the failure, the number dropped with cause stated for dropping. A tabulation is made of all these teachers' reports at the close of the semester, and opportunity is given for comparing one semester's work with another for the past four or five years. The past semester, which ended in June, 1914, showed thirty-eight different classes in which there were no failures. It showed, further, that the percentage of failures is gradually being reduced to a minimum. For us an average minimum will be from 10 to 13 per cent. There will be an occasional class that will run very much higher, but a very much larger number that will run very much lower."

Last spring Dr. Brown gave the writer the following table, which illustrates the claims made in the foregoing quotation:

TABLE OF PERCENTAGE OF FAILURES.

Subject.	1911.	1912.	1913.	1914.
Algebra	24	22	15	12
Arihmetic	26	20	12	13
Geometry	29	19	17	16
German	21	20	13	14
Latin	22	19	16	13
French	10	09	08	09
Physiography	12	10	08	09

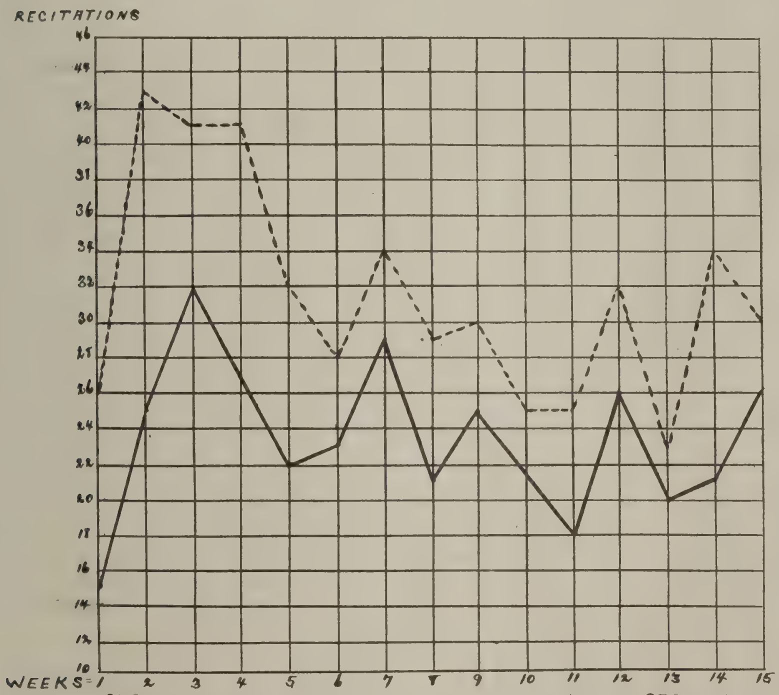
It will be noted from this table that there is a consistent decrease of failures from 1911 to 1914. The few exceptions are due to conditions that must be contended with in connection with every method; for example, the general ability of the entire class, some classes having a higher general efficiency than others. From his own observations of the method at work in the Joliet High School the writer can bear witness to the general workableness of the scheme. All the teachers with whom the writer spoke were in hearty accord with the method. It should be added, however, as Mr. Brown himself writes in the article referred to, that this double period method requires a large organization and a high degree of specialization on the part of the teachers. "The scheme will probably fail if adopted in schools with a small number of teachers having to teach three or four different subjects during the day."



CURVE SHOWING WEEKLY AVERAGES OF RECITATION GRADES

------ SUPERVISED ______ UNSUPERVISED

Mr. J. H. Minnick of Bloomington, Ind., performed an interesting experiment in supervised study with results confirming in substance those already cited. (See *School Review*, December, 1913.) Selecting sixty pupils from classes in beginning plane geometry, Mr. Minnick drew at random thirty-six names and divided these thirty-six pupils, giving one division supervised study and the other remaining unsupervised. The following curves show the results as explained:



CURVE SHOWING TOTAL NUMBER OF RECITATIONS PER WEEK

------ SUPERVISED ——— UNSUPERVISED

In addition to the foregoing curves the following table of results in examinations is suggestive:

Kind of Exams.	No. of Exams.	Average of Class. Super.	Average of Class. Unsuper.	Aver. No. of Problems Solved. Super.	Aver. No. of Problems Solved. Unsuper.
Six weeks examinations.	1	77.3	68.7	4.2	3.5
	2	81.2	80.4	4.3	3.9
Final examination......	1	92.4	80.1	12.7	12.2
Tests consisting of new material	1	82.4	73.9	4.8	4.4
	2	87.3	70.2	4.8	3.7
	3	77.6	56.2	2.1	2.1
	4	82.8	77.3	4.2	3.8

Clearly supervised study works in the cases cited. Additional evidence is furnished by Mr. Breslich of the Department of Mathematics in the University High School, University of Chicago. (See *School Review,* Vol. XX, pp. 505-515.) Two classes in algebra were tested. Section A was assigned the usual home work, and no supervised study was given; Section B was taught how to study, and was not given any home work. Both sections were given the same lessons. The result of the same test given to both sections at the close of the experiment is as follows: Section A, 62.8; Section B, 65.5. The preceding semester when no supervised study was offered to any classes, Section B, had an average of 79.4, and Section A, 81.4. By supervised study Section B gained over Section A. The lower averages were due to the greater difficulty of the subject-matter. In the next chapter studied the order was again reversed. Section A was given supervised study and Section B the usual home work without supervised study. In the test given both sections A averaged 77.5, a considerable gain over 62.8, and B averaged 86.4, breaking its own record and gaining over A. The supervised study work given B before still persisted from the preceding chapter's work.

Although the results obtainable from experiments in the field of supervised study are few, they all point to the same general effectiveness of the method. At the present writing it is difficult to make sustainable comparisons among the various methods. Considerable experimentation is necessary with all of the methods and the keeping of accurate and comparable records is imperative before results of a greater volume and wider range can be stated. The statements of teachers and principals in sympathy with the method are, however, confirmed by the experiments cited. Progressive schoolmen can render the cause of education invaluable service by undertaking similar work and reporting their results.

In conclusion it will be of interest to quote from a letter written by Superintendent Charles C. Hughes of Sacramento, Cal., explaining his abolishing of home study. (See *Thirteenth Yearbook of the Society for the Study of Education,* pp. 60, 61.)

"I found that the average home made no preparation for children's study. If the standard was low, the light was inadequate, and the surroundings often pernicious. As the home standards were raised, the social life of the family interfered, and the case was rare where a study-room, or even a study-place, properly lighted, heated or ventilated was prepared for the child or children in the family. The parents were found either unable or unwilling to aid their children to study. We discovered that we were shifting to the home the duty which belonged to the school. After the plan was put into operation we soon discovered that, although we had cut down the number of recitations considerably, the periods of intensive study under supervision made up many times for the reduction.

"We also found that we could make a better measure of the children; that teachers were, under the old system, apt to pat the quick boy on the back and praise him when he had studied probably not more than a few minutes at home, and scold his slower brother who had really put in considerable time, thus making a prig or a bluffer of the one and eventually discouraging the other. The school should not be a recitation machine. Study is more important than recitation. We are getting better results in our work and the teachers know their pupils better. The school is taking upon its shoulders its whole duty instead of only part of it. * * * One of the defects of our modern high school, with its fine specialization, lies in the fact that each teacher gives as much as any child can do in an evening, which results in a child having three or four times as much as he can do, with the further result that he becomes discouraged or attempts to bluff his way through."

Principal J. Stanley Brown echoes the same viewpoint in the following:

''Our observation and investigation lead us to the belief that a great part of the so-called home study is time ill-spent when we consider the small return for the large amount of time. The teacher has no evidence that the theme written at home represents the pupil's work, nor that the demonstration prepared at home is the real effort of the pupil. Work done under the direction and supervision of the teacher inculcates a kind of personal honesty which it is difficult to inculcate outside of such supervision.''

In the conclusion of his article already quoted from Mr. Brown, he makes a magnificent home-run hit when he says:

''The time ought never to come in this country when the individual should be styled a teacher if he thinks that his function as such has been properly performed after he has assigned a lesson and heard the boy recite it. This dwarfed, shrivelled and medieval type of teacher ought to be assigned to a work dealing with inert, non-sentient material, but not with human, living, pulsating, growing life. Supervised study reaches its greatest defense in a teacher in whom the qualities of sympathy and interest, inspiration and magnetism and human uplift are dominant.''

DISCUSSIONS AND COMMUNICATIONS

AN EXPERIMENT IN SUPERVISED STUDY

By E. A. White

Principal of Kansas City, Kansas, High School

FOR many years, until the present school year, the K. C. K. H. S. has maintained a study hall with a seating capacity of about two hundred, presided over by a competent director, who spent all of her time looking after this room. The last two years we have had seven periods of forty-five minutes each. It was the plan of the school to have each pupil spend an hour in the study hall preparing his lessons. We had the usual laboratory periods and double periods for all manual arts work. Pupils who were in the study hall the fourth, fifth or sixth periods were allowed to eat lunch during one of those periods; others who had the seventh period vacant went home.

The present school year we have five sixty-five minute periods, with no double periods or laboratory periods. Every teacher teaches five periods and five classes. About thirty minutes of each period is used for study directed by the teacher, except in manual work and on laboratory days in science. Lunch is eaten in two divisions, each having twenty minutes.

The object of this paper is not to give a theoretical discussion of supervised study, but to give just enough theory to justify the experiments we are making in our High School. For the above reason this argument will be rather personal and specific, referring to this particular school.

We have a school of fifty teachers and over twelve hundred pupils, a building located on the principal street only a few blocks from the business center, and, in common with all large cities, we have the usual places which detract the high school pupils from their work, such as a drug store across the street where tobacco is sold to anybody who can pay for it, pool halls in either direction on the business street, where the high-school boy may spend his afternoons and half of the night; nickel shows, which open at the proper time to receive the high-school pupils as they are dismissed from school, and all other places of amusement, except saloons, which tend to get pupils away from their school work.

Judging from the above statements, it may be seen that supervised study is negative and only used to *prevent* something, but this is not true; these are only a few of the contributing arguments for the plan. It has more important positive sides.

It is worth much more to a pupil to have an instructor teach him how to study than to teach him Latin or Algebra. Most pupils just entering the high school, if given work to do at home, with the usual instructions as to how to proceed, will fail unless there is someone at home to supervise the study. Parents are usually tired and do not like to do this work. They would prefer to reverse the order and have the teacher supervise the study and let them hear the recitation.

In most high schools pupils are sent home with their assigned lessons and directed by their teachers to put one hour on each lesson, and they honestly spend the time, but the results next day do not show well-directed effort. Who can tell the effect on the after life of pupils of forming the habit of using an hour to do a piece of work that should be done in half the time? Pupils should be trained to work by the job and not by the hour. Give them more directed, intensive study and less undirected, extensive mental pottering.

It is impossible for all high-school pupils to have a room at home separate from the other members of the family in which they may study uninterrupted. Our old system assumed that all had this advantage, but upon investigation it is found that about ninety per cent. of the seniors and less than sixty per cent. of the first term pupils have these rooms. Have these seniors since their first year found a place to study, or, since more than half of our pupils drop out of school before becoming seniors, have we just eliminated those who cannot study at home?

The large study hall method where pupils have a vacant hour to study and are collected from all classes in one room to study anything which they may choose has not been a success. The study period can be much better directed by the teacher who is to hear the recitation in that particular subject. The object of long periods is not to get more pages of the textbook covered in a given time, nor is it to get more work out of the best pupils, but to get more uniform work done by all the pupils and to keep the class together. In fact, the tendency at present in our school is to cover less of the text and to have better recitations by the class as a whole. The study period gives the teacher an opportunity to help the backward pupil just when he needs help and in this way keep him from being discouraged.

If consultation periods after school are voluntary on the part of the teacher, they are few, and if voluntary on the pupils' side, there are still fewer. Those pupils needing the help seldom ever come unless compelled to do so by the teacher.

The directing and helping pupils to master their lessons gives a teacher a chance to study her pupils, their methods of thought, their dispositions and to get acquainted with them. Teachers are not uncommon who, after having had pupils in their classes for a term, cannot call their names, and they know less, if possible, about the pupil's knowledge of the subject which is being taught.

As far as the experiment has gone, the above reasons have all proved tenable. To properly divide the work among the departments and equalize the cost of instruction in all is a reason for the change which overshadows all others. Principals who have had to do with manual training, including cooking and sewing and some other subjects to a less degree, in large high schools know that the cost per pupil in these departments is out of all just proportions when compared with other departments.

In our school last year some teachers taught three classes, some four, some five and others six. This year every teacher has five classes, and the number of classes lost is just equal to the number gained, so that the cost of instruction for the school as a whole ought not to change if other conditions did not enter. Last year all manual work had two hours for each class and science work three hours for two classes, making the adjustment of the pupils' program difficult, so that more classes were necessary. Under the system a minimum number of classes can be filled to their maximum capacity. (See table on page 262.)

The most noticeable difficulty at present with supervised study is the woeful failure on the part of the teachers to teach a pupil how to study. High-school teachers are trained in colleges where the knowledge of a subject is paramount, and they are hired by Boards of Edu-

SCHEDULE OF CLASSES, 1914 AND 1915.

E. A. White, Principal. TEACHER'S ROOM.	Hour I 8:30 to 9:35	Hour II 9:35 to 10:40	Hour III 10:40 to 11:45	Hour IV 11:45 to 1:10	Hour V 1:10 to 2:15
ENGLISH.					
Miss Douthart ...58	English 5 & 6	English 7 & 8	English 8	English 7 & 8	English 5 & 6
Miss Lasley 28	English 3 & 4	English 5 & 6	English 3 & 4	English 5 & 6	English 3 & 4
Miss Oliverson ...36	English 4	English 1 & 2	English 5 & 6	English 3 & 4	Psychol.
Miss Cubine 43	English 4	English 3 & 4	English 5 & 6	English 1 & 2	English 5 & 6
Miss Canaday 55	English 1 & 2	English 3 & 4	English 2	English 3 & 4	English 2
Miss Martin 64	English 1 & 2	English 3 & 4	English 1 & 2	English 1 & 2	English 2
Miss Swayze 39A	English 1 & 2	English 2	English 4	English 1 & 2	English 1 & 2
Miss Polack 4B	English 1 & 2	English 1 & 2	English 1 & 2	English 1A	English 1A
Mr. Turner 35B	English 6	English 1A	English 1 & 2	English 6	English 1 & 2
Mr. Bishop 5B	English 1 & 2	English 2A		English 1 & 2	English 1 & 2
MATHEMATICS.					
Mr. Bogle 77	Bookkeeping 1	Algebra 1 & 2	Geometry 1 & 2	Algebra 1 & 2	Trigonometry
Miss Woodyard ..24	Algebra 1 & 2	Algebra 1 & 2	Algebra 2 & 3	Geometry 1 & 2	Algebra 1 & 2
Miss Dougherty.. 49	Algebra 3 & 4	Algebra 1 & 2	Algebra 2 & 3	Algebra 2 & 3	Algebra 2 & 3
Miss Flagg 27	Geometry 2	Algebra 1 & 2	Algebra 1 & 2	Geometry 1 & 2	Geometry 1 & 2
Miss Helwig 39B	Algebra 1 & 2	Geometry 1 & 2	Algebra 1 & 2	Geometry 2	Algebra 1 & 2
Miss Hyde 78	Algebra 1 & 2	Algebra 2 & 3	Geometry 1 & 2	Algebra 2 & 3	Algebra 1 & 2
Mr. Rice 40	Algebra 1 & 2	Algebra 2 & 3	Geometry 1 & 2	Algebra 1 & 2	Algebra 1 & 2
Mr. Gowans 51	Com. Arith. 1 & 2	Com. Arith. 1 & 2	Music 1 & 2	Com. Arith. 1 & 2	Music 3 & 4
SCIENCE.					
Mr. Kendrick 48	Gen. Science 1	Gen. Science 1	Gen. Science 1	Gen. Science 1	Gen. Science 1
Mr. Layman 42	Adv. Phys. 1 & 2	Adv. Phys. 1 & 2	Adv. Phys. 1 & 2	Reviews	Physiology
Mr. Lyon 74	Gen. Science 2	Physics 1 & 2	Physics 1 & 2	Physics 1 & 2	Physics 1
Mr. Mangun 66	Chemistry 1 & 2	Chemistry 1 & 2	Chemistry 1 & 2	Chemistry 1 & 2	Chemistry 2
Miss Allen 41	Botany 2	Botany 1 & 2	Botany 1 & 2	Botany 1 & 2	Botany 1 & 2
Miss Angle 60	Physiology 2	Biology 1 & 2	Physiology 1 & 2	Physiology 1 & 2	Biology 1 & 2
FOREIGN LANGUAGE.					
Mr. Ward 26	Latin 4 Special	Latin 1 & 2	Latin 6, 7 & 8		
Miss Thompson ..57	Latin 5 & 6	Latin 3 & 4	Latin 1 & 2	Latin 1 & 2	Psychology
Miss Mann 61	Latin 3 & 4	Latin 5 & 6	Latin 2	Latin 1 & 2	Latin II
Miss Van Cleave..53	Latin 2	Latin 1 & 2	Latin 3 & 4	Latin 1 & 2	Latin 1 & 2
Miss Vaughan ...62	French 1 & 2	French 3 & 4	French 1 & 2	Latin 1 & 2	Latin 1 & 2
Mr. Kionka 76	German 2	German 5 & 6	German 1 & 2	Spanish 1 & 2	Spanish 1 & 2
Mr. Stubbs 79	German 1 & 2	German 1 & 2	German 3 & 4	German 1 & 2	German 1 & 2
				German 1 & 2	Geometry 1 & 2

			HISTORY.		
Mr. Morgan 23	OFFICE.		History 6		
Miss Myers 34	History 1 & 2	History 1 & 2	History 3 & 4	History 1 & 2	History 1 & 2
Mr. Shepherd 44	History 1	History 1 & 2	History 2	History 2	Civics and In.
Mr. Logan 31	History 2	History 1 & 2	History 1 & 2	Economics 1 & 2	History 1 & 2
Mr. Spencer 59	History 5 & 6	History 5 & 6	History 5 & 6	History 5 & 6	History 5 & 6
			COMMERCIAL.		
Mr. Boyd 45	Pen. & Spel. 1 & 2	Shorthand 3 & 4	Bookkeeping 2	Pen. & Spel. 1 & 2	Pen. & Spel. 1 & 2
Mr. Breidenthal ..46	Shorthand 2 & 3	Pen. & Spel. 1 & 2	Bookkeeping 1	Pen. 2	Com. Geog.
Miss Haynes 47	Typewriting	Typewriting	Typewriting	Shorthand 1 & 2	Typewriting
			ART.		
Miss Harman 68	Designing	Public Sp. 1 & 2	Designing	Fr. Drawing	Fr. Drawing
Miss Adams 67	Public Sp. 3 & 4	Designing	Public Sp. 1 & 2	Public Sp. 1 & 2	Public Sp. 3 & 4
			MANUAL TRAINING.		
Mr. Gilbert 29	Woodworking 1	Woodworking 1	Woodworking 1	Woodworking 1	Woodworking 1
Mr. Paul 7	Machine Work 1	Machine Work 2	Woodworking 2	Woodworking 2	Woodworking 2
Mr. Johnson 30	Mech. Dr. 1 & 2	Mech. Dr. 1 & 2	Mech. Dr.	Mech. Dr.	Mech. Dr.
Miss Meldrum ...69	Sewing 2	Sewing 1	Sewing 1	Sewing 1	Sewing 1
Miss Russell 69	Sewing II		Sewing 1		
Miss Kelly 70	Cooking 2	Cooking 1	Cooking 1	Cooking 1	Cooking 1
			PHYSICAL TRAINING.		
Miss Elliott 35A	Phys. Tr. Girls	Phys. Tr. Girls	Phys. Tr. Girls	Phys. Tr. Girls	Phys. Tr. Girls
Mr. Babb 35A	Phys. Tr. Boys	Phys. Tr. Boys	Phys. Tr. Boys	Phys. Tr. Boys	Phys. Tr. Boys

LUNCH.

Pupils are sent to the lunch room in two divisions during the fourth hour as follows:—Rooms in the north end of building from 11:45 to 12:05; and in the south end from 12:50 to 1:10. School is dismissed at 2:15, except the business department.

COMPARATIVE REPORT FOR FIRST SIX WEEKS' WORK.

1913-1914.

Department.	No. of Pupils in Department. 1913.	1914.	Cost of Department (Instruction Only). 1913.	1914.	Cost per Pupil in Each Department. 1913.	1914.
English	952	1,059	$1,696.00	$1,846.50	$1.75	$1.74
Mathematics	809	796	1,456.00	1,479.00	1.80	1.86
Science	671	768	1,230.50	1,252.50	1.83	1.63
Foreign Language.	659	783	1,426.50	1,468.50	2.16	1.87
History	378	592	675.00	847.50	1.79	1.43
Commercial	499	805	465.00	825.00	.91	1.02
Art	278	229	417.00	424.50	1.50	1.80
Manual Arts.....	303	512	994.50	1,024.50	3.28	2.00
Phy. Training....	140	328	349.50	300.00	2.49	.91
Total	4,679	5,872	$8,710.00	$9,468.00	$1.861	$1.613

Or 25 cents per pupil class, which makes $1.25 for each pupil, each having five studies for $12. It makes a saving of $15 for six weeks and $90 for the year.

cation because of this knowledge rather than their ability to instruct pupils how to obtain it. They are trained to hear recitations instead of to show pupils how to prepare for them.

Report cards having been given out but once and only eight weeks of the year having passed, it is too soon to try to present any conclusions except those in the table.

Some of the difficulties which have been met might be mentioned. Some teachers do not like the plan; it interferes with their afternoon social engagements. Most parents approve it, but some of their children say it keeps them in school too long. The feeding of twelve hundred boys and girls is a problem. Some teachers cannot control a room for sixty-five minutes, and others cannot stop talking long enough to let the pupils study. It overworks the principal. These may all be overcome in time.

During the first six weeks last year, 1913, 6.1 per cent. of our girls dropped school, and 6.1 per cent. of our boys. This year 5.8 per cent. of the girls dropped and 2.8 per cent. of the boys.

The schedule of classes on pages 260-261 may be of interest.

THE STAY IN SCHOOL CAMPAIGN.

By J. M. Gwinn,
Superintendent New Orleans Schools

THE Stay in School Campaign was the immediate result of a conference called by the Superintendent. At this conference, October 28 last, there were present the assistant superintendents and the heads of the different divisions of the Department of Superintendence. Before this, desultory efforts had been made toward inducing children to remain longer in school. In January, 1911, the Department of Superintendence sent a personal letter to each of the 8A grade pupils reported as not intending to go to the High School, urging the importance of staying in school to finish the high school course. In May, 1914, a "Stay in School" meeting was held in McDonogh No. 23 School. Each year facts have been collected, compiled, and published concerning the elimination of children from the schools, and, recently, through the Division of Educational Research, such facts have been more clearly and forcefully brought to the attention of the public. In December last, blank forms making inquiry concerning vocational choices of children over thirteen years of age were sent to the parents of all such children and to the children themselves.

At a meeting of the School Board, January 11, 1915, the following recommendation of the Superintendent was adopted: "In order to encourage pupils in the grammar and high schools to remain in school until they have completed the work of the high school, I recommend that the week beginning January 18 be designated as "Stay in School Week," during which week a campaign shall be made in all of the grammar grades and high schools. The object of this campaign is: (1) To discover and retain for the schools the children who are being eliminated for any cause; (2) to stimulate and encourage parents and pupils in the matter of prolonging school life; (3) to secure active co-operation of the Press and of prominent citizens who may act as speakers at school-house meetings during this week; (4) to unify and utilize in this definite, specific undertaking (to lessen elimination) the efforts of our various civic organizations, such as Public School Alliance, Parents' Co-operative Clubs, the Presidents' Co-operative Club, New Orleans Educational Association, the Alumnæ Associations of the High and Normal Schools, the Association of Commerce, and the Board of Trade."

Following this action by the Board, invitations were sent to the heads of the organizations named and about 100 citizens to meet in the Office of the School Board for the purpose of planning the campaign. Not all invited were able to attend, but a representative body of citizens met and, with President S. Wexler of the School Board presiding, perfected plans for the conduct of the campaign. It was decided to hold one meeting for grammar grade pupils in each grammar grade school and one meeting for parents and patrons in each of these schools. One meeting was to be held in each of the high schools for high school pupils, and on January 20 the seventh and eighth grade pupils were to visit their respective high schools for the purpose of acquainting themselves with the advantages and opportunities offered in these schools. Under the direction of the general citizens' committee, a corps of speakers was selected, other speakers to be secured by the principal of each grammar school, co-operating with the Parents' Club of the school.

The campaign was carried out as planned. There were 48 meetings for pupils and 51 for parents and patrons; 11,000 boys and girls in the grammar grades heard a total of 104 addresses; 5,195 persons attended the meetings for adults, at which meetings a total of 120 addresses were made. The corps of speakers included 120 different persons.

The week following the campaign a request was sent to the principal of each high school asking for definite information concerning the results of the campaign. The following facts are taken from the principals' reports: 92 eighth A pupils who had decided not to go to the high schools have entered the high schools; 63 of these going to the high schools have changed from shorter to longer courses; 98 pupils who had decided to leave school in the near future were influenced to change this decision; 223 parents are reported as having definitely decided to keep their children in school longer than they had expected to do.

The good results, of course, cannot be definitely estimated now, for time alone will reveal the outworking of ideas and ideals implanted in the minds of pupils and parents. The Stay in School Campaign was unique and bids fair to be the beginning of similar campaigns in this and other communities. The campaign met with such general approval and such hearty support that if no other good results it was worth while in securing for public education the active interest and co-operation of many citizens. The local press gave it wide publicity and thereby called attention of thousands to the objects of the campaign.

Principals have been asked to offer suggestions and criticisms regarding the campaign, and especially in reference to the ways in which the campaign should be followed up. The more common suggestions are as follows:

(1) Have a campaign each term and earlier in the term.

(2) Send printed circulars giving reasons for more education and information about the high schools to the parents of all children.

(3) Teachers and principals should make talks in class rooms upon the necessity of education.

(4) Supply free text books.

(5) Make school life more attractive by furnishing larger playgrounds.

(6) Teachers and principals should have personal interviews with parents.

(7) More industrial work.

(8) Experienced grammar grade teachers and vocational guidance instruction given in the grammar grades.

(9) Parents' Clubs should take up the work as a special activity.

(10) Rigid enforcement of the school attendance law.

(11) A fund to provide poor children with needed clothing, books, etc.

(12) Create a permanent Stay in School Citizens' Committee, made up of three citizens from each school district.

(13) Direct attention of pupils to vocational subjects through composition work in connection with English.

In addition to these suggestions, it is important that there be close co-operation and a more sympathetic understanding between the grammar and high schools. The high school principals should visit the grammar grade schools, talk to the pupils and confer with the principals. The principals of grammar schools should likewise visit the high schools, and there should be the closest co-operation between the departmental teachers in the grammar grades and the teachers of similar subjects in the high schools.

THE OAKLAND (CALIFORNIA) BUREAU OF INFORMATION—STATISTICS AND EDUCATIONAL RESEARCH

THE principal business of the Bureau is the handling of all school statistics and reports. In conjunction with this work it answers questionnaires and gives out information pertaining to the department. This often involves the writing of articles, the preparation of special bulletins of information, etc. In addition to this work it is supposed to do as much along the line of educational research as time will permit.

Last fall it organized the principals of the city into a study club for the investigation of problems relating to their duties as supervisors. They decided to make a careful study of each subject of curriculum with a view to finding out what experimental work had been done, what books had been written, and such other facts as they thought they ought to know.

The first study to be undertaken seriously was that of spelling. Quite an extensive investigation was made of this subject. In all about 16,000 pupils were tested, and the results are now being compiled for publication.

The principal work of the Bureau this spring will be the conducting of a survey of the more important administrative features of the school department, the results of which will be issued in the form of an annual report and printed for distribution this summer. The principals are now taking up the possibilities of applying some of the modern standards of measurement for use in connection with this survey.

Mr. Wilford E. Talbert is Director of the Bureau. C. H. J.

BOOK REVIEWS

HENRY BUDD HOWELL. *A Foundational Study in the Pedagogy of Arithmetic.* New York: Macmillan Company. 1914. Pp. XI, 328. $1.00.

In recent years many investigations on the pedagogy of arithmetic have been conducted. While some of these investigations have been made with such care that the conclusions are worthy of serious consideration, others have been conducted with such laxness that the conclusions are unreliable. Those who are interested in the pedagogy of arithmetic frequently have felt the need of a scholarly book in which the most important of the recent investigations were summarized and evaluated. Dr. Howell's volume does this in a very effective manner.

The author has not attempted to write a general treatise on the teaching of the various topics of arithmetic. He has summarized and organized with unusual clearness the widely scattered studies on "the genesis, psychology, statistics, and didactics of number." There is evidence of great care in the evaluation of the various investigations. The reader is frequently cautioned against the danger of attaching too much importance to the conclusions reached by certain investigators. Dr. Howell's conclusions are expressed briefly and concisely. The treatment is scholarly and dignified. Scholarly treatment of the pedagogy of the elementary school subjects is still rare enough to deserve special comment.

The author confines his attention largely to the investigations that have been made in this country. It is unfortunate that he makes the broad assertion that while the various treatises upon "the problem of arithmetical teaching * * * have been suggestive and valuable according to their lights, manifestly they are makeshifts." But few students of the pedagogy of arithmetic will agree with this assertion. It is in marked contrast to many of the carefully guarded statements in the treatise that follows.

The book begins with an interesting and instructive summary of several "Genetic Studies." Under this heading the author treats of the origin and development of the number sense in primitive men and in children, and of arithmetical prodigies. The second division of the book treats of various "Psychological Studies." Perception, counting, the fundamental processes, and reasoning, are discussed in terms of recent psychological investigations. The third division is devoted to a consideration of Statistical Studies. In this section of the book the well-known investigations of Rice, Stone and Courtis are very adequately treated. Various investigations on ideation and transfer in arithmetic are also summarized and evaluated. The author's treatment of the disciplinary value of arithmetic is worthy of special attention and comment. The latter part of the book is devoted to certain didactical studies and to recording certain experiments and conclusions to determine ability in apprehension and ability in processes. The first half of the book will be found to be of most value to teachers.

Dr. Howell's book should be in the hands of superintendents, supervisors and teachers of arithmetic. It is a distinct and valuable contribution. J. C. Brown.

Teachers' College, Horace Mann School, New York.

Report of a Survey of the School System of Butte, Montana. 1914. Pp. 163.

Although the making of surveys has been decried by some and abused by others, there is much evidence available that they served a useful purpose. The fact that surveys have been compelled to deal with a great variety of things has been responsible largely for a lack of public faith in them. Gradually, however, the surveyors have been focussing their attention upon those features of the school that can be rated quantitatively or about which there is an agreement of opinion. This centering of attention upon certain fundamental aspects of public education increases the comparative value of the surveys themselves.

One of the most valuable surveys was recently conducted at Butte, Montana, under the directorship of Dr. George Strayer of Teachers' College, Columbia University. Dr. Strayer had the assistance of Dr. Ellwood Cubberly of Leland Stanford University and Dr. Frank Bachman of New York City.

The survey of the Butte public school system was undertaken upon the invitation of the Board of Trustees and the Superintendent of Schools. The Board of School Trustees appropriated $4,000 to cover the expense of the survey. Before entering upon the actual work of the survey the surveyors made a detailed outline of the points they proposd to consider. They then spent four weeks in the schools. Every teacher's work was observed for a whole recitation, or for such part of a recitation as was necessary to make clear the method of instruction employed by the teacher and the results she was securing from the pupils.

According to the outline prepared, the surveyors directed attention to the classification and progress of students, the quality of instruction, the course of study, the achievements of pupils, supervision and instruction, the adaptation of schools to community needs, the administration of the schools, the selection, training, tenure, and salary of teachers, school buildings and equipment, the school census, records and reports and school costs.

In each instance the conclusions reached bearing upon these topics were the direct result of careful observations and of thorough-going investigations. The chapter on the classification and progress of pupils is particularly illuminating and definite. It might well serve as a model for other cities that desire to investigate this feature of their schools. The chapter on the quality of instruction deals with the standards for judging instruction and class-room procedure and attempts to show how these standards should be employed in various lesson types. The discussion of the course of study is one of the best that we have seen, and yet it shows that much work remains to be done before we shall have arrived at acceptable standards for judging the course of study. Perhaps the most valuable feature of this entire survey is the chapter dealing with the achievements of pupils,—definite tests were given in teaching composition, penmanship and arithmetic. The chapters on the administration of the schools contain important tables relating to tenure, salary schedules, attendance and school costs.

It is refreshing to find a survey that makes its recommendations upon the basis of an actual study of the situation. Too many surveys have been hastily or indifferently conducted and the result has been that the public has been disposed to discredit all of them, but such surveys as this not only merit the confidence of the public but are likely to receive it. L. D. Coffman.

University of Illinois.

Report of an Investigation of the Independent Industrial School at Beverly, Massachusetts, and a Recommendation for the Establishment of a Similar School in Williamsport. Published by Williamsport, Pa., Board of Trade, 1914.

This report recommends the establishment of a co-operative industrial school planned to give instruction to 110 students in the two industrial trades of woodworking and ironworking and in the administrative work of financing, selling, producing and recording.

The recommendations are unique. They plan to have this school conducted as an "actual factory," competing in the open market. One group of pupils will solicit sub-contracts for manufactured articles. Another group will make these articles. A third will look after the office work of financing, recording, accounting and producing. Five instructors will have charge of the office, school and shop instruction.

The success of the undertaking, if the recommendations are ever put into practice, will depend upon the ability of the one instructor who will have charge of the office work. Can a man be secured who has had the necessary business experiences and can effectively handle and train an office force of ten employes, inexperienced boys and girls, who must buy, sell, keep office records, oversee the producing, and attend to the many details of a manufacturing plant employing 50 hands? Perhaps,—but it will be expensive.

The Independent Industrial School of Beverly, which inspired these recommendations, is a much simpler venture. It was conducted in a factory of that city and was subsidized by this factory. All the office work, buying, selling, producing, etc., was taken care of by the factory office force. It has proven to be an excellent institution for providing the highest grade of skilled machinists with which to recruit the factory force. Taking everything into consideration, it, as reported in this *Board of Trade Bulletin,* is a highly successful experiment in industrial education.

The Beverly School furnishes some interesting facts about elimination from a co-operative industrial school. The pupils admitted to this school were selected scholastically and physically. On the opening day of the 1911-12 school year 64 were present—16 new, 13 second year and 35 third year pupils. Sixteen more were enrolled before the year was completed. At the end of the year 5 pupils had left to work elsewhere, 2 returned to the regular school, 2 moved from the city and 6 were expelled, an elimination of 17 on an initial enrollment of 64 and a total enrollment of 80. These facts do not belittle the value of vocational education. They merely suggest that those who advocate vocational education as a "cure-all" for the shortcomings of the public school may find it a failure in solving the problem of elimination.

If Williamsport adopts the recommendations, the results of the experiment will be awaited with much interest. C. E. Holley.

University of Illinois.

Arthur H. R. Fairchild. *The Teaching of Poetry in the High School.* Boston: Houghton-Mifflin Company. 1914. Pp. xii, 184, 60c.

The Teaching of Poetry in the High School is one of the latest additions to the Riverside Educational Monographs. The contents of this little volume are arranged under three headings: I. "Introductory," a statement of the present-day problems in the teaching of poetry; II. "Some Practical Work," a stenographic report of the class exercises in teaching Browning's *Andrea del Sarto*, together with comments on this exercise; III. "Some Formal Elements," a discussion of the value of the study of literary history, memorizing poetry, the value of good reading, the significance of the mental image in teaching poetry, the study of verse forms, and other similar topics.

The monograph impresses one as the work of a stimulating, successful instructor, placing on paper the results of a classroom experience which is quite in accord with the better current tendencies in the teaching of English verse. The arrangement of the material is unique and personal; the choice of the illustrative materials is fresh and individual. Possibly the reader may feel that the inclusion of Frederick Stokes Sylvester's verses on the Mississippi River reflects more credit upon Professor Fairchild's loyalty to a friend than upon his discrimination in selecting happy illustrations, but one is willing to forgive this inclusion as he watches the author of the monograph make the most of these verses.

In beginning his discussion Professor Fairchild very justly emphasizes the peculiar difficulties now confronting the teacher of English, difficulties that have arisen from the wonderful growth and the popularization of the high school. Formerly the students in our secondary schools were largely a picked class, coming from homes where good books were fairly numerous and the reading of better literature a well-established custom. Today conditions have changed: a large majority of the pupils have had comparatively little or no acquaintance with better books. In such a situation, however, Professor Fairchild finds, and finds rightly, not an excuse for despair, but a challenge and an opportunity for the teacher of English literature.

Again, the author emphasizes and discusses at length a distinction which many instructors either fail to make or fail to apply in their practice—namely, the difference between the thought element and the emotional element in literature. He dwells upon the necessity of a clear understanding of the subject-matter involved, an intellectual appreciation of the contents of a poem that well deserves the emphasis he gives it. He points out that the right study of literature is a matter of hard work, challenging the best powers in the student. He has little sympathy with the attitude of those who love to sit in a circle at twilight, clasping hands around the fireplace, while some member reads from Browning. On the other hand, however, Professor Fairchild has well brought out that enjoyment is the ultimate end of the study of poetry, and he has offered many valuable and stimulating suggestions as to how the teacher may lead his pupils to such an enjoyment; but, as has been said, he ever makes understanding the basis of such enjoyment.

The discussion of the value of oral reading as a means of interpretation is quite in keeping with present-day tendencies in the teaching of literature. After perusing this discussion, most of his readers will doubtless come to realize that he is quite right, however, in his insistent that the pupil's oral reading of the poem should, in general, come as the culmination, and not at the beginning, of the study of the masterpiece. What the author here says re-emphasizes his excellent discussion of the assignment of the lesson, for in helping students toward a finer appreciation of literature it is hard to overstress the importance of careful and skillful preparation.

Finally, the paragraphs dealing with the handling of supplementary reading call attention to a much-neglected phase of the teaching of poetry. To foster a desire to read widely in verse, and to train the student in such reading, is the high privilege of the teacher of English. If the instructor fail to rouse in his pupils a desire to travel farther in these "realms of gold"; if he fail to stimulate a desire to know more of the best that these best minds have produced in their happiest moments, he has fallen short of his possibilities. How to gain this consummation is sometimes a perplexing problem.

In its solution the teacher may receive much help from Professor Fairchild's admirable discussion. H. G. Paul.

The University of Illinois.

W. Franklin Jones. *Concrete Investigation of the Material of English Spelling.* Vermillion, S. D. 1914. Pp. 29. Ten cents.

This a study of the writing vocabularies of 1050 grade students, approximately 150 students per grade above the first. These students were distributed over the states of Illinois, Maryland, Iowa and South Dakota. The vocabularies were obtained from the daily themes of the children.

The conditions under which these themes were obtained were kept as nearly uniform as possible in all the states. The number of themes secured per student ranged from 56 to 105. The total number written and examined was a little over 75,000, and the themes averaged a little less than 190 words. The total number of words recorded from all the themes was approximately 15,000,000, but the total number of different words was only 4532. These words have been listed grade by grade. No word, however, was recorded in any grade unless it was used by at least two per cent. of the students of that grade. Omitting the words that were used by only one or two students, the remaining words may be distributed as follows:

2nd grade	1,927
3rd grade—new words added to 2nd grade list	469
4th grade—new words added to previous lists	442
5th grade—new words added to previous lists	432
6th grade—new words added to previous lists	425
7th grade—new words added to previous lists	419
8th grade—new words added to previous lists	418
Total	4,532

It will be noted from the foregoing table that the number of new words added to the list each year remains fairly constant.

Professor Jones arranged the words with reference to the frequency with which they were misspelled. On that basis apparently the arch-demons of English spelling are "which," "their," and "there." The word "which" was misspelled 321 times, and "there" and "their" together were misspelled 612 times. The word "separate" was misspelled 283 times. Over nine-tenths of all the words misspelled by the 1050 students were in the second and third grade lists.

A few other studies of this character will enable us to list with great exactness the words the children use in their writing vocabularies and the ones that they should be drilled upon for their written work. This does not mean, however, as some seem to maintain, that these are the only words that children need to learn to spell. Every child has several vocabularies: a reading vocabulary, a speaking vocabulary, a hearing vocabulary, and a writing vocabulary. These differ one from another with reference to the number of words included in them. Studies of each of these vocabularies should be investigated so that a spelling-book that will meet all the needs of the child may be prepared. L. D. COFFMAN.

University of Illinois.

GEORG KERSCHENSTEINER. *The Schools and the Nation.* New York: The Macmillan Co. Trans. 1914 by C. K. Ogden. Pp. xxiv, 351. $1.63.

The author of "Schools and the Nation" maintains that educational institutions should become more effective, for the present school system fails first of all as an adequate instrument in the cause of civic education, and then it affords no training for that part of humanity from 14 to 18 years who are to earn their bread in practical work, in industry, commerce, hand work, and agriculture. Education should not be primarily for the individual, but for the social group. Religious and philanthropic motives have always enhanced individualism, but the education of the social group has always been shifted upon the state. The individualistic ideal is disintegrating; the social ideal in education is conserving, and should therefore be followed. Political, economic and social revolution forces upon us the necessity for social unity. Through the education of the people "Social Unity" is to be attained, and this must be begun in the schools, to be supplemented by the manifold organizations of public life with an eye ever singled upon service to communal interests. Kerschensteiner holds with John Dewey that the school should become an embryonic community, reflecting the life of the larger society and inculcating in the mind of the child the spirit of service and devotion to the state. The purpose of education is not exclusively intellectual activity nor mental alertness, but rather attention to what will lead to communal capabilities and moral and industrial superiority; it must develop responsibility for and devotion to the service of others rather than technical supremacy over others. Athletic and gymnastic societies, organization of university students for the education of workmen, and the introduction of the study of civics are marked developments to further social virtues. But this learning to serve communal interests cannot be acquired through reading only; it must also be learned through actual doing, through practice. Creative or productive work must be emphasized in education, for that gives joy to life and study. The problem of popular education may be stated as "the systematic training and organization of the people to take pleasure in active constructive work for the common good."

Vocational education must supersede "general education." Culture is not acquired by cramming an unnecessary store of facts, but through participation in the actual affairs of life in relations with fellow-countrymen. The author holds that Fichte and Goethe have the right idea when they express their distrust in an education which is obtained in a superficial and unpractical way, and when they urge rather that the individuals like Goethe's Hydriots "feel their way into service" not through the study of books in navigation, but by navigating.

To encourage the individual to realize his own work and to strengthen his power by devoting to it all his intelligence and all his might is the primal duty of education. Book-learning and intellectualism must be guarded against. The peasant who knew Greek but who could not work his farm was not educated. The school of the future is the school of manual work. And finally the author explains how he in Munich has devised a system in which the farmer, the tradesman and the housewife shall be protected against this superficial smattering of general facts which serve only as a burden to the memory and as destructive to one's creative genius. He offers them instead schools of manual labor where each can become a specialist in his vocation and at the same time, by virtue of productive work, attain a higher degree of culture. H. D. TERKEURST.

University of Illinois.

PAUL MONROE. *Principles of Secondary Education.* New York: The Macmillan Co., 1914. Pp. xxviii+790. Price $1.90.

In the belief that the problems and principles of secondary education are too many and intricate for any one individual to handle, Monroe has with this book again served the teaching profession as editor for the views of several prominent specialists. He has very deftly avoided the danger of "scrappiness" inherent in such a type of book through a wise choice of contributors whose theories and opinions coincide fairly well. His purpose, as stated in the preface, "is to furnish the student a body of fact and opinion that through study and discussion he may acquire some knowledge of the entire field of secondary education, its purposes and its problems."

The book contains an able and extended treatise of the history of secondary education as conducted both in the United States and in Europe; of the organization of the high school, public and private; of the psychology and hygiene of adolescence; of moral and religious education. The subjects of study usually found in the high-school program are discussed as to value and method, while the vocational, social, and athletic interests of the secondary schools receive ample attention. The final chapter discusses the reorganization of secondary education along physical, vocational, social and cultural lines and leaves the administration of such reorganization to the time when there shall come about "accepted theories as to the ultimate purposes, means, and methods of secondary education." The usual chapter on buildings, grounds and equipment is omitted.

The conception of secondary schools, historically considered, is not usual. For instance, few students of education think of the grammar schools of the middle ages as forerunners of our American High School. A still smaller number have ever traced its ancestry as far back as the distinction of the Greeks between "the formation of habits by the process of training," which was elementary education, and the development of "general intelligence by the process of instruction," which was secondary education according to Monroe (p. 21). The historical material is, perhaps, too complete for classroom use. Certain educators are now saying that the history of education should follow rather than precede a study of educational problems. Such a contention would most certainly hold true if we are to emphasize the historical background in secondary education as this book does.

The treatment of moot-questions is sane and yet satisfying; *e. g.*, pupil self-government, pages 189-192; electives, pages 220-226; gymnastics for girls, pages 704-705. The topics for further study and the bibliographies found at the end of each chapter have great suggestive value. In the body of the text, however, some questions are distinctly asked, while no satisfactory answer, not even a tentative one, is given, *e. g.*, "Who Shall Pass," page 202.

Suggestive courses in household arts and in the commercial subjects are given with a great lack of specific help along industrial and agricultural lines. Chapter V, Organization of the High School, gives only a little aid to the teacher or principal in the smaller high schools, say of fifty to two hundred enrollment. In fact, this same thing might be said about the treatment of other problems in the book; *e. g.*, the discussion of "Moral and Religious Education," the formulation of a program of studies under the "six-six" plan; method in the teaching of mathematics; how to provide for and conduct that vague thing called "General Science" found in so many small schools. The book decidedly does not have the smaller, less fully organized and equipped high school in mind.

In Chapter VIII, page 318, Sisson uses the uncommon word "educand" to designate the student, the learner, the one being educated. As yet the lexicographers have not recognized the word, but it will undoubtedly find its place in the professional vocabulary. On page 313, line 18, appears the typographical error "he know" for "he knows." One wishes also that the black-face capitals had not been used in topic headings.

In spite of the extended historical treatise, less than four lines, on page 51, are given to the oldest Latin Grammar School in America, or at least the oldest one with "an unbroken pedagogical succession," the Boston Latin School. On page 53 Ezekiel Cheever is dismissed in a single sentence, and on page 54 the Philadelphia Academy receives attention to the extent of twenty lines. Surely the immediate forebears of our American High School are worthy a more detailed consideration.

The chapters devoted to the values and methods in the subjects of study are inspiring, suggestive, and along the most modern lines of thought as might be expected when dealt with by such experts and leaders as the writers of this section. Here is much of value for the trained as well as untrained teacher, for teachers in small schools as well as for those in larger schools. However, the section on "Training in Oral Speech," page 379, has little of suggestion or guidance, as it is merely a brief summary of present-day tendencies in the training of public speakers.

As a whole the book is decidedly a valuable and timely contribution to the professional literature on secondary education. With such a book as a background there must be worked out specific applications of these principles. The problems of the smaller high schools, of the rural high schools conducted in conjunction with the elementary school, must be presented and tentative solutions offered. Such a work as this present one does, however, meet a very real need and should receive a hearty welcome by superintendents, inspectors, principals, teachers, and college teachers of secondary education. L. A. Williams.

University of North Carolina.

Franklin Winslow Johnson. *Problems of Boyhood.* Chicago: The University of Chicago Press, 1914. Pp. xxv, 130. $1.00.

As evidence of the present awakening interest in the moral development of the boy and girl in our public schools; as evidence also of that fine devotion to public service so characteristic of our better type of American teacher, there has just come from the University of Chicago Press a very helpful and suggestive little book. To the alert high school principal, or minister, or boy scout leader, or, in fact, to any friend of the live American boy, this book, with its questions, problems and suggestions, will appeal. While the book may appear simple and elementary, nevertheless these leaders of boys will find many worth-while suggestions as to method of attacking the all-important moral problem. The book aims to give suggestions for moral conduct to the adolescent boy, but in such a way that he does not take fright at sight of them. The author is the principal of the University High School, and also the leader in a boys' "discussion club," and his book is the product of experience with and sympathy for boys. The book does not pretend to solve the problems for the teacher or for the boy, but merely offers a suggestive outline for a year's discussion in a boys' club. It is not a book of information so much as of question marks.

In his "foreword" the author urges adherence to the psychological principle that expression should follow impression, because "so much of our religious and moral instruction spends itself in a momentary glow and does not translate itself into conduct." This may be corrected, he thinks, by discussing the every-day problems of the boy and by giving each boy opportunity to form and express his own opinion. The boy must be got to express his ideas if they are to lay hold of him. Right thinking on moral problems paves the way to right acting, as is evidenced by the organization of an "anti-smut" club on the boys' initiative. The material for discussion should not take the form of rules of conduct, but this should lead him to make such rules for himself. This material should seem to be of direct and vital importance to him as a boy, hence should be made up largely of concrete experiences taken from his own life. Much of it then will be entirely local, drawn largely from his own school or community life; frequently it will be quite personal; it will be timely; it will be, in turn, social, vocational, religious, giving him his bearings in regard to the great fundamental institutions of society. During the year he will have learned something concerning how to keep a clean mind and body, good habits and bad, cheating, gambling, profanity, sex self-control, tobacco, efficiency, the choice of a life work, and religion. Boys are idealists, the author believes, and if opportunity be given, they will help the community leader to solve problems of boy conduct, and if wisely led will develop into a manhood of unselfish devotion to the best ideals of citizenship.

From a literary standpoint, the author's style is not good. The frequent questions give the book a choppy, disjointed appearance. Again, there seems no good reason for omitting the bibliography the author mentions. A short list of readings which appeal to the boy would add to the usableness of the book. Finally, the chapter on habit could be improved if the boys were shown how to make some simple act automatic—as looking up and down street before crossing. An abstract statement of principles, even when from so good an authority as Professor James, means little to a boy who hasn't yet discovered that he possesses habits. JAS. H. HANGER.

University of Illinois.

WALLACE BUTTRICK. *The General Education Board: An Account of Its Activities, 1902-1914.* New York: General Education Board, 61 Broadway. Pp. xi, 240. 1915.

This attractive, well-bound, well-printed volume represents the first attempt of the General Education Board, founded in 1902, to describe and evaluate some of the tangible results of its work that now begin to appear. Annual reports have been made to the U. S. Department of the Interior, but in these "premature statements respecting the scope and outcome of its efforts were to be avoided." It is now proposed to publish from time to time critical discussions like the present report.

This first report is of value to all educators. In it are found chapters on the history of the General Education Board, Resources and Expenditures, Farm Demonstrations (Boys and Girls' Clubs), Secondary Education, Colleges and Universities, Medical Education, Rural Education, Negro Education, and important appendices. The discussion of Boys' and Girls' Clubs, of Secondary Education, of Rural Education, and of Negro Education are particularly valuable. An extended review and critique of this volume may be expected later. C. H. J.

TOMPKINS MACLEAN MOORE. *English Composition for College Women.* New York: The Macmillan Company, 1914. Pp. 365. $1.25 net.

If anyone still thinks of rhetoric as a disinterested discipline of the schools, it must be because he is studying Quintilian and Adam Sherman Hill, to the neglect of what we might call applied English; he must have drunk so deep from the flagons of these old masters as to be unaware of the fact that time has brought forth an English for engineers, an agricultural English, a business English and a newspaper English. No one, of course, who has been awake for the last week or so will be surprised when the publishers announce the *Rhetoric for Preachers* and the *Rhetoric for Pugilists.* But why should we have a *Rhetoric for Women*—for those who are now in full possession of all the privileges of plain thinking and plain speaking without reference to previous conditions of sex? And yet this is what hails from Iowa in *English Composition for College Women.* The authors of the book seem to think that there is still such a thing as a sphere for women. We recommend the volume to those who would explain to their wards at 8 o'clock with unity, coherence and emphasis the art of "Setting and Sewing the Table"; who would at 10 o'clock address a shop girl in unimpeachable English on the subject of "Artistic Dress"; who would at the luncheon hour give the children a clear exposition of the "Cell Structure of the Body"; who would have a well-constructed club paper ready by 3; who would bring out the complication, climax, resolution and *dènouement* of the bedtime stories at 6, and would have ready a "forceful" essay on the "Minimum Wage Law" at 8. In such a life as this there will be no time for Matthew Arnold and Walter Pater. It is perhaps just as well, then, that *English Composition for College Women* devotes more pages to the club paper than it does to words and sentences. H. S. V. JONES.

University of Illinois.

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Volume I APRIL, 1915 Number 4

EDITORIALS

The Perennial Dividing Issue of the Department of Superintendence

WITH reference to the "party alignment" of the members of the Department of Superintendence one hears each year that the Old Guard or that the new blood, the "young fellows," are gaining. The programs managed by the one or by the other make different appeals and draw different types of audiences. One party slashes around and appears occasionally to land some good blows. It opposes a discernible movement of forces it obviously distrusts. It cares little for intercommunication or arbitration. It cannot or will not use the symbols of the opponents. It does not so much fear and distrust the symbols, the tables, the graphs, the scales, the quantitive ideals of the new and increasing hosts; it rather has its eyes on flesh and blood children and human questions as these are expressed in moralizing formulas and idealistic language. It fears that the new modern army, with the newly invented modes of educational thought and with the new mechanical symbols of educational values and with newly and strangely formulated "scientific procedures" may, in its haste or in its religion of quantity, have forgotten some of the complex elements of humane and wholesome schooling which for them are imbedded in the language of their generation.

The young blood, those with tests and tables and terminology, scales and charts, medians and modes, correlations and "cases," look askance at the "old fellows." They smile superciliously, when not less politely, at the old line addresses; they express regret at a certain scientific blindness which impedes the progress of their propaganda. They look forward to the day when nobody will refuse to use their exact symbols, when all will think the statistical language, when the Science of Education of which Herbart dreamed may in this new dispensation of theirs come into its own.

This journal stands to exploit this new movement. It believes that there is a fundamental educational work before it in clearing away certain very natural barriers to mutual understanding between the above two substantial but temperamentally opposing educational camps. At the same time the writer feels equally certain that at present the fundamental philosophy of American public school education is nowhere sufficiently articulate to steer safely either or any distinguishable group of educational workers.

Some one has recently said that no nations are in any true sense so completely the products of their school systems as are Germany and America. He adds significantly that the most fundamental aspect of the German educational philosophy has till now received little emphasis. Do we understand any better what is the most fundamental aspect of American education?

Wanted—A steering American philosophy of education, clear enough, embracing enough, gripping enough, to call to its colors both the parties roughly characterized and distinguished above.

C. H. J.

Opportunity for Manual Training

THERE are still many cities in which no manual training for older boys has yet been provided, chiefly because of the expense of shop equipment and special teachers. When in one of these cities the superintendent wins what has perhaps been a long campaign for the introduction of manual training, he not infrequently proceeds to install fixtures and to plan a course of instruction along lines that were antiquated even five years ago. He does not take advantage of his opportunity to start with modern methods and modern devices.

We do not yet know what will be the ultimate status of manual training for boys from twelve to sixteen years of age; but we can guess pretty certainly that the programs and theories which claimed chief attention ten or fifteen years ago are already largely discarded in communities that are educationally progressive. Stout, Gary, Fitchburg—these are but a few of the sources to which a superintendent with a clean slate as regards manual training should turn for suggestions. We need to make more of our manual training for older boys. We must make it masculine, man-size, productive, practical, genuine. We need to forget the days of little finished models, coat hangers, feminine fussiness, toe-the-line exercises, in honor of the crude and practical in manual training. The superintendent with a new opening should help us to do this. D. S.

New Problems of School Ventilation

THE theory upon which existing systems and standards of ventilation are founded is to the effect that respired air is injurious either because of its excess of carbon dioxide gas or because the organic particles in it easily become poisonous. But the investigations of the last half dozen years have largely discredited this theory. It is probable that carbon dioxide is not more injurious than nitrogen, and there is no evidence that the headaches and lassitude developing in so-called badly ventilated rooms are due to any poisonous qualities of organic emanations from bodies.

To explain the depressing effects of "bad air" a new theory has just been put forward, and a considerable body of experimental evidence already exists in support of this theory. Crowded rooms or even uncrowded rooms where the air is still, and bodily radiation reduced, prevent the body from getting rid of heat as fast as nature requires. This condition is aggravated if, because of mental or physical excitement, the body is producing excessive heat. This heat may even kill, as in a Black Hole of Calcutta. The obvious remedy is, not necessarily fresh air, but air in motion to carry off excess of heat.

The new theory is destined greatly to modify existing systems of heating and ventilation. It is improbable that present standards as to quantity of air to be introduced into a school room will hold. It is probable, too, that we shall give up all "forced" ventilation in the interests of window ventilation. Electric fans in each school room may prove a valuable means of keeping air "wholesome"—since wholesomeness is due to the "condition" of the air, and not to its composition. We may discover that frequent small variations in temperature—up and down—in a mildly "churning" body of air will do much to relieve the depressing effects of crowding and "bad air."

At any rate, no superintendent can afford to be a "stand-patter" today in matters of ventilation. D. S.

BOOKS RECEIVED TO MARCH 1, 1915.

(More extended reviews of some of these books may be expected in later issues.)

Frank W. Ballou. *Educational Standards and Educational Measurements.* Bulletin No. III of the Department of Educational Investigation and Measurement. Boston Public Schools. Boston Printing Department, 1914.

This pamphlet is a reprint of an address to principals outlining in some detail the proposed work of this new and very significant department of the city public school system of Boston. It is a document which might be read with profit by school superintendents generally.

Azniv Beshgeturian. *Foreigners' Guide to English.* Yonkers on Hudson: World Book Company. 1914. Pp. xii, 268.

A series of well graded lessons adapted for the use of foreigners desiring to learn the English language. In nearly every instance the lessons are associated with something distinctively American and intimately connected through daily contact with activities outside the school room.

Garland Armor Bricker, B.Ped., M.A. *Agricultural Education for Teachers.* American Book Company, 1914. Pp. 172.

Mr. Bricker traces the recent and rapid development of the science of agriculture; of its origin in the colleges aided by State grants, of its extension to the secondary schools, and finally the demand and the need for its incorporation in a systematic way as a scientific study in the elementary schools. He sees in demonstration work, home projects, and club work an efficient means of enriching and motivating the work.

The book is rather readable and contains a number of valuable suggestions. The author may be pardoned in so good a cause if he sometimes waxes a bit more eloquent and rhetorical than the occasion seems to warrant.

J. Crosby Chapman. *Individual Differences in Ability and Improvements and Their Correlations.* Teachers' College, Columbia University Contributions to Education, New York City, No. 63. 1914. Pp. 44.

The correlation between initial ability and improvability is here shown to be high in the case of the more complex arithmetical processes, such as addition and mental multiplication; while in the mere associative and mechanical processes, such as cancellation, initial ability and improvability seem to be negatively correlated.

High efficiency or speed appears to be closely correlated with accuracy in addition and multiplication, but no such relationship is shown in cancellation tests in which there was no previous training.

The conclusions are interesting, but hardly convincing.

William A. Cook. *A General Survey of Public High School Education in Colorado.* University of Colorado Bulletin, Vol. xiv, No. 10. 1914. Pp. 92.

These two reports present statewide conditions for secondary school work and contribute much toward a state point of view of a system of secondary schools. These important contributions will be analyzed in detail in a later issue of the journal.

Edward S. Curtis. *Indian Days of the Long Ago.* Yonkers on Hudson: World Book Company. 1914. Pp. viii, 221.

A charming and interesting account of Indian life, their manners, customs and religious lives told by a man who has spent half a lifetime of intimate contact with many tribes.

Jesse Buttrick Davis. *Vocational and Moral Guidance.* Ginn & Co. Boston. 1914. Pp. viii, 303. $1.25.

S. E. Forman. *Advanced American History.* New York: The Century Company. 1914. Pp. xiv, 634.

This text aims to present the three greatest achievements of the American people: the transformation of a continent from barbarism to a high state of civilization; the development of a vast commercial and industrial system, and the evolution of the greatest democracy of the world.

Henry H. Goddard. *School Training of Defective Children. School Efficiency Series,* Edited by Paul H. Hanus. World Book Company, 1914. Pp. 97.

The book is based on the existing conditions in New York City governing the care of defectives, which here means feeble-minded children.

Mr. Goddard believes that 2 per cent. of all school children would, if the Binet-Simon tests were applied, fall into this class. He points out the wrong done to these unfortunates, as well as to the normal children with whom they are thrown, under the present system. They should be segregated and provided with special teachers and supervisors and forms of training fitted to their abilities.

Paul H. Hanus. *School Efficiency. A Constructive Study Applied to New York City. School Efficiency Series.* Edited by Paul H. Hanus. World Book Company. Pp. 121.

This initial volume in the series by the director of the New York School Survey contains the resume and recommendations elaborated in the separate volumes of the series. The authors of these subsequent volumes are the special investigators who collaborated with Profesor Hanus in this notable investigation.

This volume should be read by all who intend to study the full findings of the survey.

John Haynes. *Economics in the High School.* Houghton Mifflin Co. 1914. Boston. Pp. xii, 93. To be reviewed later.

Leta S. Hollingworth. *Functional Periodicity.* Teachers' College, Columbia University, Contributions to Education. New York City. Pp. viii-101. Price, $1.00.

This monograph includes representative extracts from, and an estimate of, the previous literature on the subject. Most of this literature is shown to be little more than myth and tradition, or the reports of medical practitioners, who naturally come in contact with only abnormal cases.

The experiments reported were conducted with a number of women of varying ages, with examinations each day, covering a period of several months, to show the effects of the period of menstruation on the mental and motor abilities of women.

The results of these investigations afford no justification for the common theory of the "cycle" or the regularly recurring period of maximum efficiency with each month.

Trustworthy evidence on the subject, says the writer, can be given by women and by women alone. She sees a demand for "a psychology of woman based on truth, not on opinion; on precise, not on anecdotal evidence; on accurate data rather than on remnants of magic."

Mathilde E. Holtz. *Constructive English Grammar.* New York: The Century Company. 1914. Pp. 280.

The author, contrary to the custom of fitting treatment to a Latin model, "has had in mind a grammar that would keep to the construction of the English language as it is.

Charles A. Judd. *The Training of Teachers in England, Scotland and Germany.* Washington: U. S. Bureau of Education. Bulletin, 1914, No. 35.

This report of the training of teachers in the three foreign countries is valuable. It not only clearly and fully describes conditions, but it offers an authoritative and at the same time interesting critique of the curriculums of these teacher-training institutions, and gives an adequate idea of the extent and tendencies of the movements noted.

Charles H. Keene, M.D. *Manual of Physical Training Games and Class Computations.* World Book Company, 1915. Pp. 124.

In this little volume Dr. Keene has pointed out a great number of common physical weaknesses, showing the way in which to identify them and describing certain exercises to be followed in remedying them. He also suggests a number of games suitable for boys and others for small children, which allow the participation of large groups.

Frederick James Kelly, Ph.D. *Teachers' Marks: Their Variability and Standardization.* Teachers' College, Columbia University Contributions to Education, New York City. No. 66. 1914. Pp. 139.

Investigations conducted in the New York schools show the great variability in grading among elementary teachers. In general the teachers' examination standards seem to be low, as the number failed by the Regents' examination is almost as great a percentage of the number passed by the teachers as the number failed by the teachers is of the whole number taking the teachers' examinations.

A number of objective tests were applied in order to see if the variability would be reduced. In the hands of teachers inexperienced in the use of the scales the Thorndike Drawing Scale showed much greater uniformity in grading than the ordinary subjective letter method. The Thorndike Handwriting Scale did not materially affect the grading in that subject, while the Hillegas Composition Scale yielded results much more variable than the old method.

Calvin N. Kendall. *The New Jersey School Report.* Vols. I and II. Paterson, New Jersey: News Printing Company. 1914. Pp. 1950.

This thoroughgoing and significant report, especially Volume I, is full of important material. It will be noticed at more length later.

W. S. Learned. *The Oberlehrer.* Harvard University Press. Vol. I, Harvard Studies in Education. 1914. Pp. xi, 150. $1.50.

Arthur Lefevre. *The Organization and Administration of a State's Institutions of Higher Education.* Von Boechmann, Jones Company. 1914. Austin, Texas. Pp. 524.

To be reviewed at length later.

William D. Lewis. *Democracy's High School.* Houghton Mifflin Company. New York. 1914. Pp. xii, 130. 60 cents.

To be reviewed later.

Edith Long and W. C. Breuke. *Algebra, First Course.* New York: The Century Company. 1914. Pp. viii, 283.

Maz F. Meyer. *The Kind of Scholarship Record to be Kept in Schools.* Columbia, Missouri: University of Missouri. Education Series 8. 1914. Pp. 15.

A clear and trustworthy account of the manner in which scholarship records should be kept in any given system of schools.

Herman Schneider. *A Report on a Plan of Organization for Cooperative and Continuation Courses.* Board of Education, New York City. 1914.

A brief report in outline to the President of the Board of Education of the City of New York, with suggestions of plans for beginning continuation and co-operative courses in vocational education in the city.

It is definitely recommended that a Bureau of School Co-operation, practically autonomous in its operation, be established with a director in charge, and that a managerial system of organization, subject to basic legal requirements, be adopted.

The rules governing the details of operation of the present school system shall not apply to the Bureau of School Co-operation, so that the new bureau may be free to devise operating mechanism to meet its special needs.

A Selection of Latin Verse. Edited by the Instructors in Latin, Williams College. New Haven: Yale University Press, 1914. 75 cents net.

The instructors in Latin at Williams College have put teachers of Latin generally in their debt by the publication of a little volume entitled *A Selection of Latin Verse.* When it is said that thirty-two authors are here represented in 126 pages, it will be clear that many writers are but meagerly used. Catullus, Ennius, Horace and Martial receive the largest attention, the assignments here ranging from twenty-seven pages for Catullus to fourteen for Ennius, twelve pages being devoted to Virgil and nine to Ovid. The volume has neither annotations nor glossary, but the editors plan to publish later "brief explanatory notes."

M. V. O'Shea and J. H. Kellogg. *Health and Cleanliness.* New York: The Macmillan Company, 1915. Pp. 301.

M. V. O'Shea and J. H. Kellogg. *Health Habits.* New York: The Macmillan Company, 1915. Pp. 213.

These two represent the first two books in "The Health Series of Physiology and Hygiene." This series will be reviewed at length in a later issue of this journal.

Alexander Smith. *Elementary Chemistry, A Textbook.* New York: The Century Company. 1914. Pp. 439.

To be reviewed later

John Elbert Stout. *The High School: Its Function, Organization and Administration.* With an Introduction by L. D. Coffman. New York: D. C. Heath & Co., 1914. Pp. 340. $1.50.

The author describes the peculiar duty and opportunity of the high school, the demands of vocational training and guidance, the preparation for increasing social efficiency, and preparation for college.

In the part devoted to the curriculum each chapter gives suggestions regarding the better adaptation of the high school subjects to meet modern demands. Each of the studies is taken up in detail, and suggestions are made concerning it.

The section devoted to social organization points out the way in which the high school may lead to better results in preparing the pupil to meet his duties as an efficient and progressive member of a community. The book closes with a chapter on high school teachers.

A fuller analysis and estimate of this volume is to appear later.

Joseph S. Taylor. *A Handbook of Vocational Education.* New York: The Macmillan Company, 1914. Pp. xvi, 225. $1.25.

This volume represents an attempt to furnish a systematic survey in brief compass of the general field of education. It is a sort of digest of chosen literature in the field, and embraces in its overabridged treatments summary discussions by chapters of the historical developments, the status in European countries, the controversies, and a proposed reorganization of vocational education. The author advocates the 6-3-3 plan of reorganization of public education, reviews the manual training and trade training issue, compares national systems of training vocational teachers, summarizes the vocational guidance movement and discusses the apprenticeship and the compulsory education problems. There is a conclusion with the danger signal raised, a bibliography and several helpful appendices.

William Wirt. *A Report on a Plan of Organization for Co-operative and Continuation Courses.* Board of Education, New York City. 1914.

This report outlines, in an interesting way, feasible plans, modeled after the well-known Gary system, of securing pre-vocational training for all the children in the public schools of New York City by means of a similar wider use there of the present school facilities. Tentative daily programs for such study, work and play are clearly outlined and rough estimates of costs are given. It is strongly urged that the rigidity of the traditional school be broken.

Will C. Wood. *Report of the Commissioner of Secondary Schools.* Sacramento, California. 1914. Pp. 29.

VOLUME I MAY, 1915 NUMBER 5

EDUCATIONAL
ADMINISTRATION AND SUPERVISION

How Shall the Merit of Teachers be Tested and Recorded*

Edward C. Elliott
University of Wisconsin

> "*When a man cannot measure, and a great many others who cannot measure, declare that he is four cubits high, can he help believing what they say?*"—(The Republic of Plato, Book IV.)

1. *Certain Casual Observations.*—It will be well to hold in mind several of the existing anomalies of that educational situation upon which my present arguments are focused. Of all the factors and influences entering into educational processes and results, none is subjected to the scale of the measuring rod more frequently than the teacher. With elaborate systems of licenses and certificates, states and communities have established legal hair-line distinctions between varying degrees of teaching fitness. With much mechanical ingenuity, the officers of many school systems have contrived graded schemes of preferment and compensation for teachers, the presumptive bases of which are a reliable ability on the part of some one to classify positive, neutral and minus teaching, and a Sherlockholmsian accuracy for the detection of the several professional clues that respectively lead to the competent, the mediocre and the unfit.

The teacher who is not, in his own estimation, in possession of a complete set of dependable standards for the self-determination of his worth to education is of a rare species—

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*Paper read before the Round Table of Superintendents of Cities Under 25,000. Department of Superintendence, Cincinnati, February 25, 1915.

by the way, not much sought after by discriminating collectors of super-competent. Such self-imposed standards, made up though they are of rough and ready, indefinitely formulated units, serve the very admirable purpose of enabling all of us, in the modest privacy of our own thoughts, to be placed among those of superior merit.

Generally speaking, no teacher voluntarily submits his professional attainments for valuation to other than his friends. And between friends, what's the use of standards of professional attainment anyway?

Again, generally speaking, the supervisor of schools who is able, with any degree of objective accuracy, to evaluate the total working efficiency of a teacher, according to a method, and with a result that will pass unchallenged by other supervisors, has not yet revealed his identity.

Again, generally speaking, the great majority of those immediately within education, as well as those immediately without, are permanently under the influence of what Mr. Gelett Burgess has, with brilliant and sensible wit, called Bromidioms. Even a superficial scrutiny of our educational population would show how very widespread is the intemperate use of such typical Bromidioms as the following: ''I know good teaching when I see it,'' *or* * * * ''the best part of teaching, that which arouses the will, awakens the feelings, stimulates the ambitions, inspires the sense of something to be achieved and gives purpose and ideals to life belongs to the immeasurable in education.'' To be more or less bromidic is, however, a part of our common heritage.

A concluding observation is pertinent. Significant of the difficulty and intricacy of the problem of educational efficiency, as this centers specifically in the individual teacher, one interesting fact may be noted. Concerning this question, practically alone among the great moot questions of education, those ''arrogant'' judges of our educational destinies—the school surveys—have not attempted in any direct way to declare a final verdict.

2. *The Limits of the Presentation.*—Obviously, the present circumstances do not permit of any intensive elaboration of even the larger and the more important issues included

within the natural boundaries of the questions under discussion. On the other hand, the particular problems arising from these issues are of most practical concern for American teachers, and for those charged today with the professional and technical direction of public school systems. My opportunity, however, will probably be best capitalized by first centering attention upon certain pre-determining conditions in education which are serving to modify the professional status of the teacher, and also of the supervisor. A very brief consideration of the foundations of teaching merit, and an abbreviated discussion of the nature of the major measures of teaching efficiency, will bring me to my chief conclusions, viz.: that the development of usable efficiency standards for teachers depends primarily upon a much more complete objective analysis of the real work of teaching than has yet been made. In its practical application this analysis should be the means for stimulating growth and improvement of the teaching staff rather than for classifying individuals, impersonally and more or less arbitrarily, according to their professional fitness. For, may not an index of the productivity of a school system be found in the demonstrable merit of its supervision, fully as much as in the observed performances of its teachers?

3. *The Changing Basis of Selection for Work.*—The drama of our daily forward moving life contains no more intense scene than that in which the manipulators of human energy seek to identify and to isolate the economically usuable and socially needful qualities of men. The general status of an individual—his preferment and his premiums of compensation—in the working world is, to an increasing degree, limited and fixed by the extent to which he possesses selected groups of qualities and energies. All varieties of work are being analyzed into constituent elements of action and reaction. From these elements there is to be built up synthetically, according to the formulas of a sort of human social chemistry, the man of skills—*the Efficient One.* Vocations tend more consciously and directly to select men, instead of men selecting vocations.

This scientific engineering of human material by the Taylors and the Gilbreths is now a familiar and exploited phenomenon in industry and commerce—the world of controlled and controllable movements and products. Our contemporary life reveals many tragedies resulting from this analysis of work and the relentless selection of the fittest workers. Notwithstanding, there is an ethical logic for the attitude that only through such a process of analysis and synthetic selection of human qualities will there be a sound basis for the economic and social discovery of the Individual. Only as the real individual is discovered will this be a world of real opportunity for all.

4. *The Changing Status of the American Teacher.*—The conspicuous result of the great educational revival of three quarters of a century ago was the rediscovery of the *school* by *democratic society;* that the ideals of democracy become realities of life only through the agency of the public school system. The motives of the epochal educational endeavor of the past decade are to be found in the rediscovery of *democratic society* by the *school;* that the life of the school is maintained by the transfusion of vitality from a living society. A new set of professional interests is developing today from the rediscovery of the *teacher* by the *school;* that the school system, as an educational machine, requires for its proper operation teachers who are skilful men and women, not merely skilful machine tenders. The educational promise of the years now approaching depends upon the rediscovery of the *teacher* by *society;* that there shall be a positive relation between quality and worth of service and quality and quantity of rewards.

Organized industry and trade, through minute analysis of the work to be done, have found ways for testing the complex values of men and for the economical selection of individuals for work. Organized education, somewhat less consciously perhaps than industry and trade, is also striving to analyze its processes and ends into elemental units. An understanding of the nature of these units, alone and in combination, is a prerequisite for the selection of educational workers, and for the most serviceable utilization of the capacities of the individual teacher.

There are many who view, with no uncertain apprehension, the present-day movement for the so-called standardization of education in any of its numerous particulars. In so far as such standardization represents not a means, but an end in itself, there is ample basis for uneasiness among those who have the discernment to realize that among the essential foundations of the teachership are individual freedom and the counterplay of subtle emotional reactions.

Withal, it seems inevitable that education will not escape the influence of those same forces that aim to bring a standardized order into the making and exchanging of material things. Nor should there be attempt to escape if through scientific analysis of the requisites for successful teaching there is any likelihood of a larger emancipation of the teacher from the feudalism and the mechanical mastery of the existing educational order.

The testing and recording of teaching efficiency has this as a clearly-defined objective: the analysis of the work of teaching into its basic components, and the analysis of the workers in teaching as to their possession of basic qualities and capacities. The changing, economic, social and professional status of teaching is to be conditioned by the character and accuracy of the analysis we make of the work and the worker.

5. *The Changing Responsibility of the American City School Superintendent.*—It is inappropriate here to review, even as to its chief stages, the professional evolution of the city school superintendency. That there has been a fairly rapid evolution during the past twenty years is all too patent. This evolution has been more rapid in the demand for those qualifications and abilities necessary for successful supervision than it has in the supply. The preacher-prothonotary-politician types of superintendents are becoming extinct. Their places are gradually being filled by men who have an abiding faith, a detached, impersonal attitude toward the problems of education and a personal skill in adjusting the school machine to the emerging needs of child and community. The problem of teaching efficiency is in the hands of the new type of school superintendent.

Among the multitude of official and non-official responsibilities of your school superintendent in your modern city, none approximates in importance that of evaluating, conserving and improving the quality of performance of the teachers who properly look to him for leadership and pre-eminent skill. The degree to which this responsibility to the teaching staff is fulfilled is indicated by the devices employed, the methods used and the records preserved of the improvement of the performance of each teacher employed at any time in those schools. The one great end of teaching is the prevention of the waste of child energies and capacities. The one great justification for educational supervision is the prevention of the waste of teacher interest, skill and products. The prevention of teacher waste precedes the prevention of child waste.

6. *The Foundations of Teaching Merit.*—The motions of teaching are not comparable to the motions of bricklaying. The bricklayer, with identical series of motions, is able to produce immediately the same material results. The teacher, with such an identical series, is confronted with pupil results, extremely variable and extremely remote. At the outset we should realize that in teaching efficiency we are dealing with at least three sets of variables—the teacher, the pupil and the supervisor. Any product of their combination is bound to be a variable.

The *Autocrat at the Breakfast Table* gives us a better insight into our problem than the statistician. Holmes, it will be recalled, calculated that at least six personalities were to be distinctly recognized in the relations of John and Thomas. There were in the first place three Johns: (1) the real John, known only to his Maker; (2) John's ideal John, never the real one, and often very unlike him; (3) Thomas's ideal John, never the real John, nor John's John, but often very unlike either. Similarly, there were three Thomases.

Because of these complicated relations and counter-relations, the problem of a satisfactory foundation for a plan of determining teacher merit is difficult and delicate. The literature of education is rich with a poetic analysis of the *ideal* teacher. This same literature is sadly lacking in records of the scientific weighing of the *real* teacher.

At this stage of our progress certain working principles seem to me to be entitled to our consideration. Seven of these may be briefly and crudely formulated somewhat as follows:

(1) *That*, the chief purpose of any teaching efficiency scheme, is to serve as the means of promoting development and improvement of the individual teacher.

(2) *That*, the content-basis of any teaching efficiency scheme should be the result of co-operative determination between the members of a teaching staff and the supervisors.

(3) *That*, this content-basis should attach primary importance to objective items representing those results of teaching capable of objective valuation rather than to contributory personal factors.

(4) *That* clear and definite meanings should be attached to each item that enters into any final estimate of the value of the teacher's performance.

(5) *That*, the original estimate of fitness, calculated according to the accepted plan, should be made by the teacher, and not the supervisor.

(6) *That*, this original estimate should be subject to correction only after conference between teacher and supervisor. The burden of proof for the verification as well as any modification of the teacher's estimate rests squarely upon the supervisor.

(7) *That*, at least once each year the verified and modified estimates should be made a matter of definite record.

7. *The Nature of the Measures of Teaching Efficiency.*—It is a far cry from the position taken by a city superintendent who recently said to me with emphasis: "This talk about the measurement of teaching efficiency is all 'bosh.' All I want to know about a teacher is 'Can she teach?' I don't need any efficiency curves to enable me to answer that question. What I need is to see her teaching." Now, there is a kind of sense in this comment, we must admit, even though it is nonsense. As a class, city superintendents are less sophisticated than formerly, less cocksure of their possession of a gift of second sight enabling them to pass with offhand certainty upon the processes and products of the teacher's work.

The particular plan or device employed seems to me to be relatively unimportant, (a) providing there is clear recognition of the foundation principles above defined, and (b) providing there is no attempt at overelaboration of minor details, and (c) providing the main value stress is placed upon clearly-defined results of teaching rather than upon formal procedure or upon personal factors of presumptive educational worth. In these several respects, however, practically all of the systematic efforts to analyze teaching ability put forth in recent years have left much to be desired. In this connection might be mentioned the analytical scheme which I proposed and published five years ago; that of Superintendent E. C. Witham of Southington, Conn.; that of Mr. A. C. Boyce, recently described in the Yearbook of the Society of College Teachers of Education, as well as the rating schemes adopted in many cities, typical of which are those of Houghton, Kansas City and New Orleans.

My judgment of five years ago, relative to the major constituents of effective teaching performance (see my Provisional Plan for the Measure of Merit of Teachers), remains unchanged as to essentials. Experience and observation bulwarks my contention that the teacher is an octo-personality; that there is a physical teacher, a moral teacher, an executive teacher, a professional-technical teacher, a projecting teacher, a social teacher, a supervisory teacher (arising from the relations that exist with supervisors and other superiors of the school system), and finally an achievement teacher. This last is, in reality, a product of the cumulative converging of the other seven personalities. Before we are able to understand its real nature and worth we will be obliged to analyze far more carefully than hitherto the professional composition of each of the preceding seven major factors. It is possible to analyze them and thereby rid the profession of teaching of that state of delightful and harmonious disagreement as to what are the fundamentals of teaching performance that make for genuine educational economy and achievement. It must be comprehended that proper measures of the teacher's efficiency must reward variety of ideas instead of uniformity of ideas, flexibility of procedure rather than rigidity, the play of individuality in place of readiness of adaptation to the machine.

8. *The Need of Experiments, Experience and Evidence.* The solution of the practical problem of teaching merit may not be *talked out* on the platform. It must be *worked out* in the schoolroom, by teachers and supervisors, with that intelligence, detachment and painstaking care that hall-marks all work of a truly scientific character. There is need of more such detailed study of the measures of merit of teachers as that of Ruediger and Strayer (Journal of Educational Psychology, Vol. I (1910), p. 272ff.) and that of Mr. A. C. Boyce (Ibid, Vol. III (1912), p. 144ff.). There is need of such individual experiments as that of Superintendent Witham (Southington, Conn.), Doelle (Houghton, Mich.), Clement (Dodge City, Kan.), Jones (Rockford, Ill.).

More than this, we need co-operative experimental work over a wide area and under various conditions. The results of the experience of different individuals with different plans must be scrutinized and compared. Efficiency is not a problem to be met and solved by the individual teacher and supervisor. It must be met and solved by the profession of education working together. I doubt not that a group of a dozen competent superintendents, of relatively small school systems, working together upon this problem, could do more in a single year in the production of a workable method for the determination of the merit of teachers than could a hundred superintendents and non-superintendents working alone for a generation.

Judge not, that ye be not judged, the creed of those who shrink from assuming the primary responsibility of the modern school supervisor, is no longer orthodox; rather, *judge, and judge justly.* Educational justice for children and efficiency justice for teachers are one and the same.

Means of Measuring School Achievements in Handwriting

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THE work of a school is to produce certain desirable changes in health, strength, intellect, character and skill, and to prevent changes that are undesirable. The changes that occur in a pupil are defined and measured by the difference between his condition before and his condition after the school training in question. By allowing for the improvement that would have accrued apart from the training of the school we have left a measure of the school's achievement.

The pupil's condition in respect to an ability like handwriting or spelling is measured by the quantity and quality of the product which he can produce under specified conditions. In handwriting, the problem of measuring quantity and quality of the product produced by children of grades 4 to 8, inclusive, is now especially simple. For quantity we may use the number of letters written per unit of time; and for quality, the point reached on the scale devised by Thorndike (Handwriting, Teachers' College Record, March, 1910) or the scale published later by Ayres (A Scale for Measuring the Quality of Handwriting of School Children. Russell Sage Foundation, Bulletin No. 113.) The nature and use of these scales has been clearly stated by their authors. The pupil may be required to write at several speeds and the quality of his writing measured at each speed.

Assuming, then, the use of one or the other of these scales, the practical problem remains of deciding how many samples of handwriting must be measured to give a valid result for a school system.*

This problem is of special importance because the number of samples to be measured is much less than many school officers suppose. The cost of getting a substantially accurate measure of the average achievement in handwriting of the hundreds of thousands of pupils in grades 4, 5, 6, 7 and 8 on Manhattan Island would, for example, be well under $500.

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*I will not here discuss the problem of securing a valid result for a single school, a single class, or a single pupil.

To determine how few tests of a school system will suffice to give measures of any assigned degree of accuracy is a rather arduous task. I am at present engaged upon it, and shall report detailed results when the work is completed. For the present I give only a plan which I know will give results accurate enough to compare one system with others or with its own condition 5 or 10 years hence. Just how accurate they will be I shall be able to report in a year or two.

The plan submitted is threefold, providing for a measure of quantity and quality of handwriting (1) when done with care, (2) when done at the pupils' ordinary rate, and (3) when done with instructions to "write as fast as you can and still write so that anyone can read your writing easily." The plans for securing and scoring samples are as follows:

Let us define an "*individual sample*" or a "*paper*" as what a pupil produces in writing some poem or the like that he knows perfectly for 120 seconds. The words "one, two, three, four," etc., or "Monday, Tuesday, Wednesday," etc. (repeated) may be used. By the "*quantity*" of a *paper*, I shall mean the number of letters written. By "*a rating of the quality*" of a paper, I shall mean the value assigned to it by an honest judge who rates it by the Thorndike scale,† according to the instructions given therewith.‡ * * *

For a school system with from 10 to 19 elementary schools, each having one or more classes in grades 4 to 8, inclusive, the requirements are as follows:

Sampling Schools and Grades.—Choose 10 schools at random (as by listing all the schools each on a slip and drawing 10 slips by chance). Call these 10 schools 1, 2, 3, etc. Call the 10 successive school days of a two-week period M. 1, T. 1, W. 1, Th. 1, F. 1, M. 2, T. 2, etc. Make out 4 slips with "grade 4" on each, 4 with "grade 5" on each, and so on. Choose two of these slips and one day at random for each school. There will then be a schedule of tests running in some such way as—

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†The plan for sampling reported here is adequate in case the Ayres Scale is used.

‡The element of *endurance* is not considered in this paper. It can be measured, but, naturally, at considerable cost of time; its measurement also involves some troublesome technical problems. Endurance in *handwriting* is not of great moment, since writing at length is, and should be, done largely with machines.

Day M. 1	School 9	Grades 5 and 7
Day Tu. 1	School 2	Grades 4 and 7
Day W. 1	School 4	Grades 6 and 8

Supposing the above to be the schedule, on M. 1 test all classes in Grade 5 and in Grade 7 in School 9, giving to each class three 2-minute tests, as noted above and described in detail later. On Tu. 1 test all classes in Grade 4 and in Grade 7 in School 2 in the same way, and so on.

Sampling Pupils Within Each Grade.—Choose at random 10 pupils (as by taking the first or last 10 alphabetically) from all those in one grade in one school. This gives three sets, a, b and c, of 200 *individual samples* or *papers*, one set for careful, one set for ordinary, and one set for rapid writing. None of the other papers will be needed, though they should be filed for possible later use.

Sampling Papers in Relation to Judges.—Choose 20 honest judges and provide these with copies of the Thorndike scale.* Divide each set of 200 papers into 10 packs of 20 papers each. Have judge No. 1 rate packs 1, 2 and 3 of set a; have judge No. 2 rate packs 4, 5 and 6 of set a; have judge No. 3 rate packs 7, 8 and 9 of set a; have judge No. 4 rate pack 10 of set a and packs 1 and 2 of set b, and so on, until each judge has rated 60 papers and each paper has been rated by two judges. Have the second judge of the two in every case make his rating without any knowledge of the ratings given by the first judge. Have the judges assign scores as per the instructions of the scale.

Scoring for Quantity.—Have some competent person score the number of letters written in each paper. (This scorer should read the paper to note any omitted or repeated words and then score it from a key giving the number of letters up to any given letter in the poem or passage written.) It is not necessary to make allowance for single letters omitted or added by misspelling, but for an entire word or phrase omitted or repeated allowance should be made in the score.

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*Or Ayres Scale if that is preferred.

Average, for each set of 200, the 400 ratings for quality and the 200 scores of letters written. The results will probably be accurate within one-fifth of a unit of the Thorndike scale† for quality and to a fiftieth in quantity.

For a school system with 20 or more elementary schools, follow the previously-described plan, except that 20 schools are to be chosen, and that only the classes in one grade per school need be tested.

It may be noted that the principles illustrated in this plan—of judging an entire system by a sufficiently large sampling of the schools, classes, and individual pupils, tested on a sufficiently large sampling of days and judged by a sufficiently large sampling of judges—are universally applicable.

There is no important issue of efficiency for whose solution it is necessary to test every pupil in every class of every school in a system. It is not much more of a task to measure the average achievement in a school subject in a city with 100,000 pupils than in a city with 10,000, or in one with only 1000. Roughly, the status of a community's school children in grades 4 to 8 with respect to height, weight, strength, ability to read, write, draw, spell, compute, apply arithmetic to such problems as life will offer, knowledge of elementary science, geography and history, and power to use this knowledge, and ability with the vernacular in speech and writing, should be determined with substantial accuracy for purposes of comparison with other school systems, or with the same school system in the future, at a cost not to exceed $7000 to $10,000, according to the city's size. With the progress that is now being made in the invention of units and scales for educational measurements, the cost should be less year by year.

THE CONDUCT OF THE TESTS IN HANDWRITING.

Before entering the classroom decide whether to use ruled or unruled paper. It is probably better to use unruled paper, because the inter-comparison of school systems is then fairer, and because the actual writing of letters, commercial memoranda, and the like, in the world at large is now more often on unruled paper. Provide uniform paper for all schools. Provide clean pens of the sort used in the system or of a sort found to be generally suitable by the investigator. Provide blotters.

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†Or within about 1⅗ units of the Ayres Scale.

Upon entering the classroom ascertain from the teacher some passages of 30 words or more which the pupils all, or nearly all, know by heart, or plan to use the ''one, two, three, four'' series. Distribute pens (in holders) and one sheet of paper per child and say, ''Write your name at the top of the sheet. Then write the date of your birthday and how many years old you were at your last birthday.'' Then observe the time and say, ''Write the first verse (or stanza, according to the teacher's usage) of 'My Country, 'Tis of Thee' '' (or whatever the passage is). While the class is writing, record the names of any who do not remember the passage. Collect the papers after exactly 2 minutes. Write the verse (or stanza) in large, clear letters on the blackboard. Then say, ''I am going to see now how well you can write. You may use the pen I gave you or your own pen if you prefer. Have nothing on your desk except blotter and pens. I shall give each boy and girl a sheet of paper. Do not touch it or do anything till I say 'Go.' When I say 'Go,' take your pen and write just as well as you can the first verse (or stanza) of 'My Country, 'Tis of Thee.' Write carefully and well until I say stop. When you finish the stanza, write it again. Keep writing it till I say stop. If you forget part of it, look at the blackboard. When I say stop, stop just where you are and put the pen down. Leave all pens on the desks till I say 'Go.' ''

Have paper distributed, watching that no pupil takes his pen.* Say ''Go'' and instruct any pupil who fails to write concerning what he is to do. At the end of exactly 120 seconds say ''Stop! Pens down! Blot your writing carefully. Write your name quickly on the bottom line of the sheet.'' Allow 10 seconds only for writing the name and have the papers collected at once. Be sure that no child continues the writing itself.

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*Cheating on the part of any child may be easily prevented by having the children stand till the signal to begin is given and stand again upon the signal to stop, or by having the hand with pen therein held up in the air until the signal to begin is given and as soon as the signal to stop is given.

Then say, "Now I will see how well you can write when you write about as rapidly as you ordinarily do. I shall give each boy and girl a sheet of paper as before. When I say 'Go,' take your pens and write 'My Country, 'Tis of Thee,' just as you did, only write about as rapidly as you usually do. When you finish writing the verse, write it again. Keep writing it till I say 'stop.' " Then distribute paper and proceed as before. While the children are writing, mark the preliminary 2-minute papers "pre" and the "careful" test papers "1, Careful."

After the papers of test 2 are collected, say "Now we will see how well you can write when you write very rapidly. I shall give each boy and girl a sheet of paper. When I say 'Go,' take your pen and write just the same as before, except that you will write as rapidly as you can and still write well." Proceed as before.

Mark the papers from the second test "2 Ordinary," and those from the third test "3 Rapid." Mark an envelope containing them with the school, grade, teacher's name, date and hour. Seal the envelope and retain it until it can be given to the director of the test.

When the envelope is opened, each of the test papers is to be marked 1, 2 or 3, according as it was the product of the careful, the ordinary or the rapid writing. The 10 papers chosen by the alphabet from each set are to be marked, *on the back,* with the age in years and months, and the sex.

Means of Measuring School Achievement in Spelling

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ACHIEVEMENT in spelling may best be considered as the overcoming of two sets of difficulties—difficulties in spelling per se, such as are overcome when a sixth-grade pupil learns to spell *because, reason,* or *bicycle.* and difficulties in acquaintance with words, such as are overcome in learning to spell *Abracadabra* or *Popocatapetl.* Many words, of course, present difficulties of both sorts. I shall report means suitable to measuring achievement of the first sort, which may be regarded as the task of instruction in spelling itself, since the range of a pupil's reading in science, literature, history, and so on, in large measure conditions the extent to which he makes achievements of the second sort. The tests provided here can easily be supplemented by tests designed primarily to measure achievements of the second sort.

The first species of achievement is measured by the difficulty of the words which a given percentage of the pupils can spell or by the percentage of them who can spell a word of a given difficulty. Thus if, in the third week of the year, in grade 3, 50 per cent. of the pupils in one school system can spell words as hard as *send* or *front,* while in another system 50 per cent. of the pupils can spell words as hard as *believe* or *carriage,* we have, in so far forth, reason to rate the third-grade achievement of the second system higher. So, also, if in the second system 80 per cent. of the pupils can spell words as hard as *send* or *front.*

In the plan which is submitted here achievement will be measured in one or both of these two ways.

Consider the following groups of words:

		Standard Achievement. Spelled correctly by approximately
Series 3.	front, pass, forty, send	50% of 3d grade pupils.
Series 4.	button, touch, wear, surface	" " 4th " "
Series 5.	carriage, circus, believe, loose	" " 5th " "
Series 6.	saucy, beginning, succeed, whistling	" " 6th " "
Series 7.	slipped, ascending, imagine, character	" " 7th " "
Series 8.	intelligent, occasion, peculiar, mixture	" " 8th " "
Series 9.	guarantee, conscientious, thoroughly, disappoint	" " (?) " "

These words, with many others, have been made the subject of elaborate study in the department of Educational Psychology at Teachers' College, Columbia University, especially by Dr. B. R. Buckingham, so that he can define their difficulty with precision and state what it signifies for one of them to be spelled correctly by any given percentage of any given grade from grade 4 to grade 8, inclusive.

By using twelve of these words (in sentences as shown below) as a spelling test given with proper precautions to, say, 2000 children picked at random, 400 from each of the grades in question, we have a measure of the achievement (of Species I) of a school system in spelling, adequate for fairly accurate comparison with other school systems and with the same school system in other years. For more precise estimates, each series should be enlarged to contain six, eight or ten words of equal difficulty to those now listed, and each grade should be tested with eighteen, twenty-four or thirty words. Such enlarged lists are being worked out by Dr. Buckingham.[*]

Sentences for Spelling Test.

Series 3. I will send forty men. Please pass in front of me.
Series 4. He likes to wear a white button. The rope can just touch the surface of the water.

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[*] The degree of precision attained by the use of any number, x, of words with any number, y, of pupils is being made the subject of study, and will be made the subject of report later.

Series 5. I believe that your belt is too loose. They drove to the circus in a carriage.
Series 6. He laughs, and is saucy, and keeps on whistling. They may fail in the beginning, but soon they will succeed.
Series 7. While ascending the stairs he slipped. You cannot imagine a person with so bad a character.
Series 8. He made a peculiar mixture of ashes and cement. The intelligent scholars were all present on this occasion.
Series 9. I can guarantee that this girl is thoroughly conscientious, and will never disappoint you.

For the present, I shall consider only the briefer test, all the principles of arrangement and measurement remaining unchanged for the longer test.

The means of securing a random sampling of pupils from each grade and of administering the tests so as to prevent any possibility that any pupil can be prepared for the test in advance through knowledge by him, his teacher or his principal of what words will be used in the test are necessarily somewhat elaborate. I will say nothing about this aspect of the matter now, but assume that 400 children of grade 4 have been honestly tested with Series 3, 4, and 5 in sentences as shown above; that 400 children of grade 5 have been so tested with Series 4, 5, and 6; that 400 children of grade 6 have been so tested with Series 5, 6, and 7, and so on.

TABLE 1.

Record for Grade 4.

Classified by Pupils and by Words.

Individual pupil, designated by a number and by his age.			3d Grade standards.				4th Grade standards.				5th Grade standards.			
	Age.		1	2	3	4	1	2	3	4	1	2	3	4
No.	yr.	mo.	front	pass	forty	send	button	touch	wear	surface	saucy	circus	believe	loose
117	9	7	c	c	c	c	c	c	..	c	c	..	..	c
218	10	2	c	c	..	c	c	..	c	..	..	c	c	..
119	11	4	c	..	c	c	..	c	..	c	c	..	..	..
120	9	8	c	c	c	c	c	..	c	..	..	c	..	..

A table is then prepared for each grade as shown in Table 1, and a record is made of the spelling of each word by each pupil. Omitted and illegible words are scored wrong. The percentage of children spelling each word correctly is recorded as in Table 2, together with the amount by which the percentage exceeds or falls below 50, the standard; and the amount by which it does so for the average of the four words. In the case illustrated in Table 2, no one of the grades falls on the average below the standard for one grade lower, but one of them (grade 6) does rise above the standard for the grade higher. In grade 6, 76 per cent. of the pupils pass the sixth-grade standard on the average, and 52 per cent. of them pass the seventh-grade standard.

TABLE 2.

An Imaginary Record of the Results of a Test in Spelling.

Percentages of pupils in each grade spelling the standard words for that grade and for the lower and the higher grade, together with the measures of superiority or inferiority computed therefrom.

	3d Grade standards.					4th Grade standards.					5th Grade standards.				
	1	2	3	4	Average.	1	2	3	4	Average.	1	2	3	4	Average.
Grade 4..........	80	78	78	80	79 + 29	56	60	64	52	58 + 8	39	34	35	38	36.5 — 13.5
Grade 5..........	..	..	..	..	..	71	79	83	86	74.8 + 24.8	51	49	53	46	49.8 — 0.2
Grade 6..........	..	..	..	..	..	..	..	..	..	..	94	95	90	89	94.5 + 44.5

And in similar manner for grades 7 and 8.

	6th Grade standards.					7th Grade standards.					8th Grade standards.					Super 8th Grade standards.				
	1	2	3	4	Average.	1	2	3	4	Average.	1	2	3	4	Average.	1	2	3	4	Average.
Grade 4......	..	..	..	..	..	..	..	..	..	..										
Grade 5......	32	34	38	30	33.5 — 16.5	..	..	..	..	..										
Grade 6......	78	75	81	70	76 + 26	57	44	49	58	52 + 2										

For comparisons of school systems in respect to total achievement, the average percentage excess or inferiority to the standard 50 may be used for a system unless this average is as high as +20 or as low as —20. In cases averaging +20 or more, it is better to state also the relation of grade 4's achievement to the fifth-grade standard, the relation of grade 5's achievement to the sixth-grade standard, and so on. In cases averaging 20 or more *below,* it is better to state also the relations to the standards one step lower. For example, suppose that three cities, being measured, give results as shown in Table 3. We should state the general case of each as follows:

System A averages —8, +2, +9, —1 and +18 in grades 4 to 8, respectively, averaging +4.0 on the whole.

System B averages +13, +29, +22, +29, +33 in grades 4 to 8, respectively, averaging +25.2 on the whole. Being compared grade by grade with the standard for a grade higher, it averages —14, +1, —2, —1, +4, in grades 4 to 8, respectively, averaging on the whole —2.4. System B is thus almost a whole grade ahead of standard achievement, and somewhat nearly a grade ahead of System A.

System C averages —12, —14, —14, —17, —8 for grades 4 to 8, respectively, or —13.0 on the whole. We note also that, comparing it with standards one step lower in each case, it averages +16, +17, +10, +8, +19 or +14.0 on the whole. It is thus about half a grade behind the standard, or nearly a grade and a half behind System B.

TABLE 3.

Imaginary Records of the Results of Tests of Spelling in Three Cities.

Average percentages correct and corresponding measures of superiority and inferiority.

	In relation to standards of one grade lower.		
	City A.	City B.	City C.
Grade 4	.....	.....	(66) + 16
Grade 5	.....	.....	(67) + 17
Grade 6	.....	.....	(60) + 10
Grade 7	.....	.....	(58) + 8
Grade 8	.....	.....	(69) + 19
Average of all grades	.....	.....	+ 14.0
	In relation to standards of same grade.		
	City A.	City B.	City C.
Grade 4	(42) — 8	(63) + 13	(38) —12
Grade 5	(52) + 2	(79) + 29	(36) —14
Grade 6	(59) + 9	(72) + 22	(36) —14
Grade 7	(49) — 1	(79) + 29	(33) —17
Grade 8	(68) + 18	(83) + 33	(42) — 8
Average of all grades	+ 4.0	+ 25.2	—13.0
	In relation to standards of one grade higher.		
	City A.	City B.	City C.
Grade 4	.....	(36) — 14	.....
Grade 5	.....	(51) + 1	.....
Grade 6	.....	(48) — 2	.....
Grade 7	.....	(49) — 1	.....
Grade 8	.....	(54) + 4	.....
Average of all grades	.....	— 2.4	.....

It should be added that there are ways and means to utilize the facts for each of the words of each of the three series for each grade, and to combine them into one total achievement-measure for the system that is much superior in precision to that obtained by the rough method shown here. An understanding of these ways and means, however, depends upon knowledge of statistical principles and technique which are as yet rare amongst students of education, and I will say nothing about them here.

MEANS OF SAMPLING AND PREVENTION OF UNFAIR PREPARATION FOR THE TESTS.

Suppose, first, that the investigator can be sure (1) that no teacher who knows the test words that are used will do anything to aid any other teacher in any way to prepare his class for such a possible test; and (2) that no supervising officer or teacher will, from reading this report, do anything to alter instruction in spelling in his school from what it would otherwise have been.

Then the problem is one of economy in securing random sampling of pupils and in conducting the tests so that the pupils themselves cannot give unfair information. Under these conditions choose 10 schools (or 20 in a very large city) and record the number of classes of each grade in each. Plan to test classes enough so as to have at least 12 of each grade from 4 to 8, inclusive. Plan also to test in any one school *all* the classes of any grade which you test in that school at all. Plan to get approximately equal numbers of classes from each school, say 5, 6, 7 or 8, if 10 schools are used, or 3, 4 or 5 if 20 schools are used. As a result, there will be a schedule somewhat like that shown in Table 4.

Allow 15 minutes per class as time required for testing, and arrange to give Series 3, 4 and 5 to whatever grades require any one of these series on one day; Series 6 and 7 to whatever grades require either of these series on a second day; and Series 8 and 9 to the appropriate grades on a third day. For example, unless distances between schools are very great, the work outlined in Table 4 can be managed by three or four competent workers, each working three forenoons, with provision that information about the test is not given by any pupil to pupils in advance.

Choose 400 papers at random from those secured for each grade; or use all the papers from a grade if there are less than 400.

If all possibility of information being given by teachers is to be eliminated, more investigators must be put to work, the same test being given to all pupils, who are required to take it at the same hour of the same day.

TABLE 4.

	4th Grade classes.	5th Grade classes.	6th Grade classes.	7th Grade classes.	8th Grade classes.
In school 1 test...........	2	2	1	1	0
In school 2 test...........	4	3	..	..	2
In school 3 test...........	4	3	..	..	2
In school 4 test...........	3	3	..	..	..
In school 5 test...........	..	2	2	1	1
In school 6 test...........	..	..	2	2	1
In school 7 test...........	..	..	2	2	2
In school 8 test...........	..	..	3	2	2
In school 9 test...........	2	2	1	1	1
In school 10 test...........	..	..	3	2	2

If absolutely all possibility of special preparation on the words of these series is to be eliminated, the expert in charge must first discover 28 other words such that seven series of four each can be formed equal in difficulty, *as series,* to these series. This is now a far more difficult task than the testing of 10 systems of schools with the series when found. Eventually, however, the work now being done by Dr. Buckingham will provide 8 or 10 such alternative lists of 28 words each. With each such added list a new list becomes not only less necessary, but also much easier to secure.

All the Elements of Handwriting Measured

Ernest C. Witham

Superintendent of Schools, Southington, Conn.

DURING the past five years the measurement of handwriting has received considerable attention from two sources: (1) the professors of educational psychology and (2) superintendents and teachers. So far, the writing supervisors have not greatly contributed to the solution of the problem. To what extent they have used the various scales is unknown. But at this point it would be exceedingly interesting and of great practical value to the further development of the educational measurement of the subject if a score or more articles by competent writing supervisors on results which they had obtained from the use of the various methods of measuring writing could be published. For the present, at least, we have enough methods. What we now need is a comparative application of the existing scales and methods by the supervisors and teachers of writing in sufficient quantity to determine the practical and usable from the theoretical and unusable material which has been piling up. In short, the various scales and methods of measuring handwriting need to be put through the same trying-out process which the Binet intelligence tests have received.

The present article is a study of the method of measuring handwriting, described in the *School Board Journal*,* applied to two seventh-grade classes.

All of the elements: (1) speed, (2) legibility and (3) form and beauty are accurately measured.

1. SPEED. This is determined by the number of letters and punctuation marks copied in eight minutes from the basal reader in use in the grade which is being tested. Eight minutes may at first seem too long a time to allow for this, but it should be kept in mind that all of the pupils in the class do the

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*WITHAM, ERNEST C., "A Method of Measuring Handwriting." School Board Journal, May, 1914.

writing at the same time, and that the average reading time for the pupils in all of the grades is about 45 seconds for what they can write in eight minutes.

The directions for conducting and scoring the speed and legibility have already been given in detail in the article referred to, and so are not repeated here. It is, however, absolutely necessary to have a copy of these directions before attempting to try this method.

2. LEGIBILITY. Good writing can be read more rapidly than poor writing. The speed, divided by the number of seconds which it takes the pupil to read what he has written, gives the legibility. There are reasons pro and con as to whether the pupils themselves or some other person should do the reading. The author realizes that pupils differ widely in their rate of reading. This does not impair the value of the reading as a test of legibility, because this feature is recognized and controlled. The pupils are reminded that this is a test of their writing, and not a reading test. So they are told beforehand not to waste any time over words which they do not know how to pronounce, but to spell them and then hurry on with their reading. (Of course, this is not, strictly speaking, reading at all.) There is no effort made to see how much the pupils understand of what they are reading.

While actual experiments alone can settle this question, it would seem, to many at least, that the individual readings are preferable, because (1) a definite piece of the pupil's work is absolutely measured in minutes and seconds; (2) the reading of the writing by some other person would introduce many entangling elements not a part of the pupils which would have to be considered.

Figures 1 and 2 show the graphs of two seventh-grade classes measured for speed and legibility.* The value of such a graphic location is very great, because it enables both teachers and pupils fully to understand the relation of these two elements in regard to the individual attainments. The accumulative record of a pupil's progress in writing may be kept on these graph sheets, provided they are used individually,

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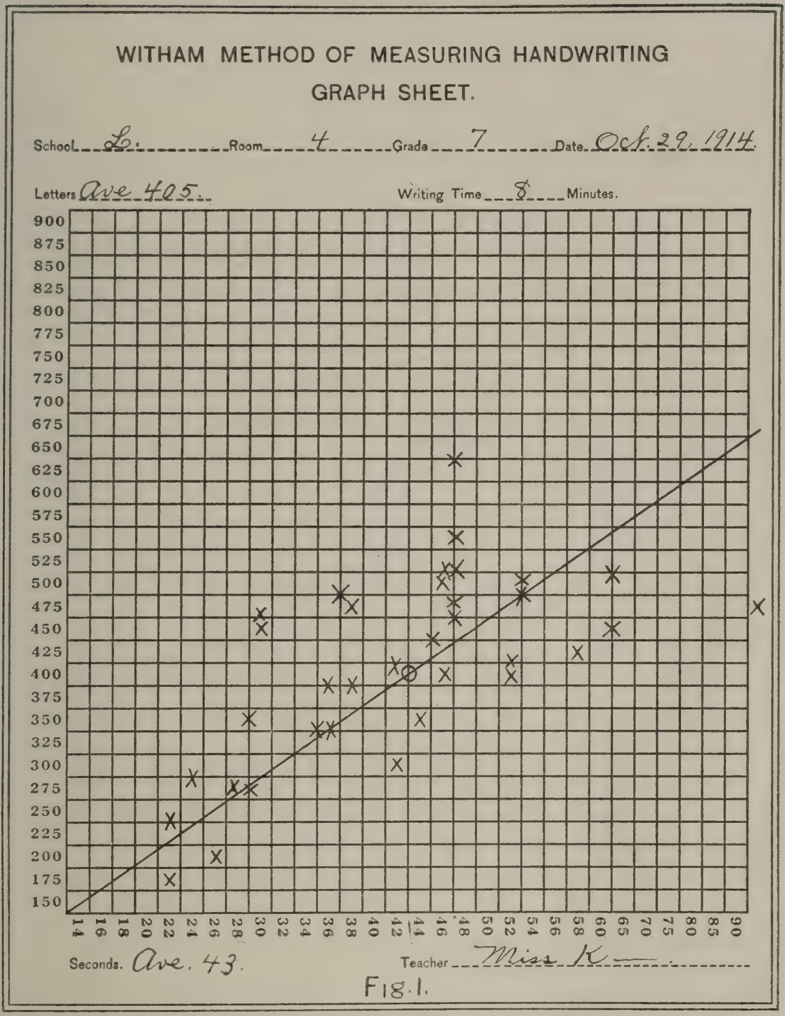
*Copies of these blank graph sheets can be obtained from C. H. Stoelting & Co., Chicago.


WITHAM METHOD OF MEASURING HANDWRITING
GRAPH SHEET.

School L. Room 4 Grade 7 Date Oct. 29. 1914.

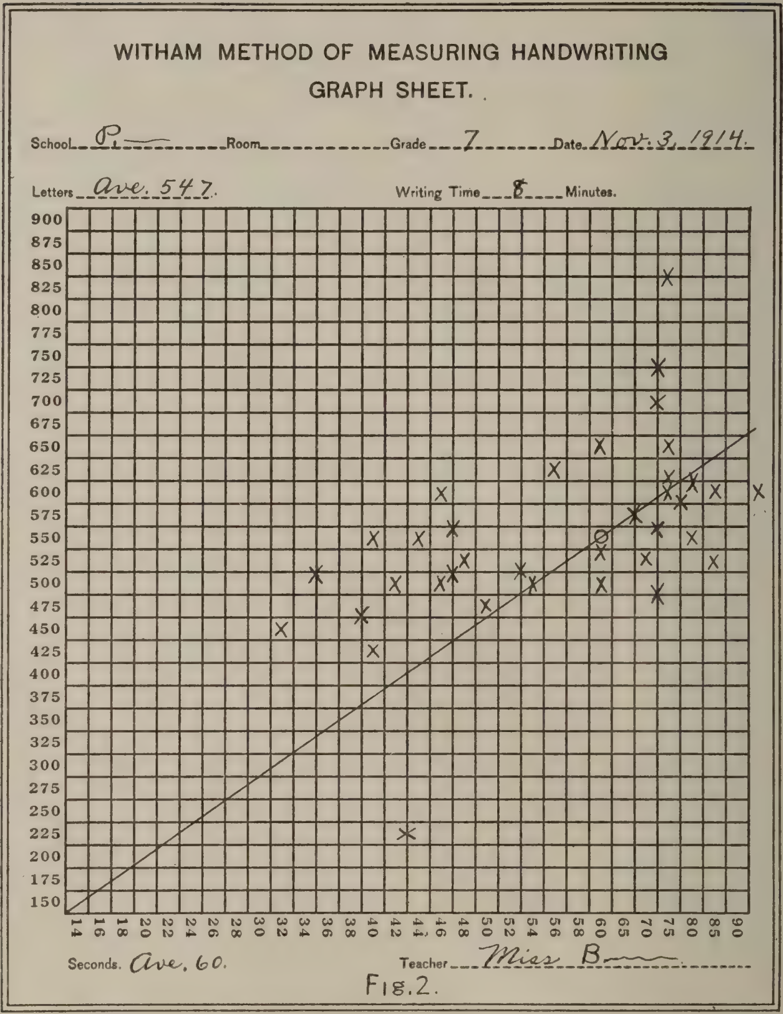
Letters Ave. 405. Writing Time 8 Minutes.

Seconds. Ave. 43. Teacher Miss K——

Fig. 1.

started in the early grades and passed on from grade to grade with the pupils, just as the red cards are handled in the National Record System.

3. Form and Beauty. This element can be measured by any of the scales in existence, but preferably by a scale devised by the supervisor or teachers themselves. There should be a different scale for every grade.



WITHAM METHOD OF MEASURING HANDWRITING
GRAPH SHEET.

School P. Room Grade 7 Date Nov. 3, 1914.

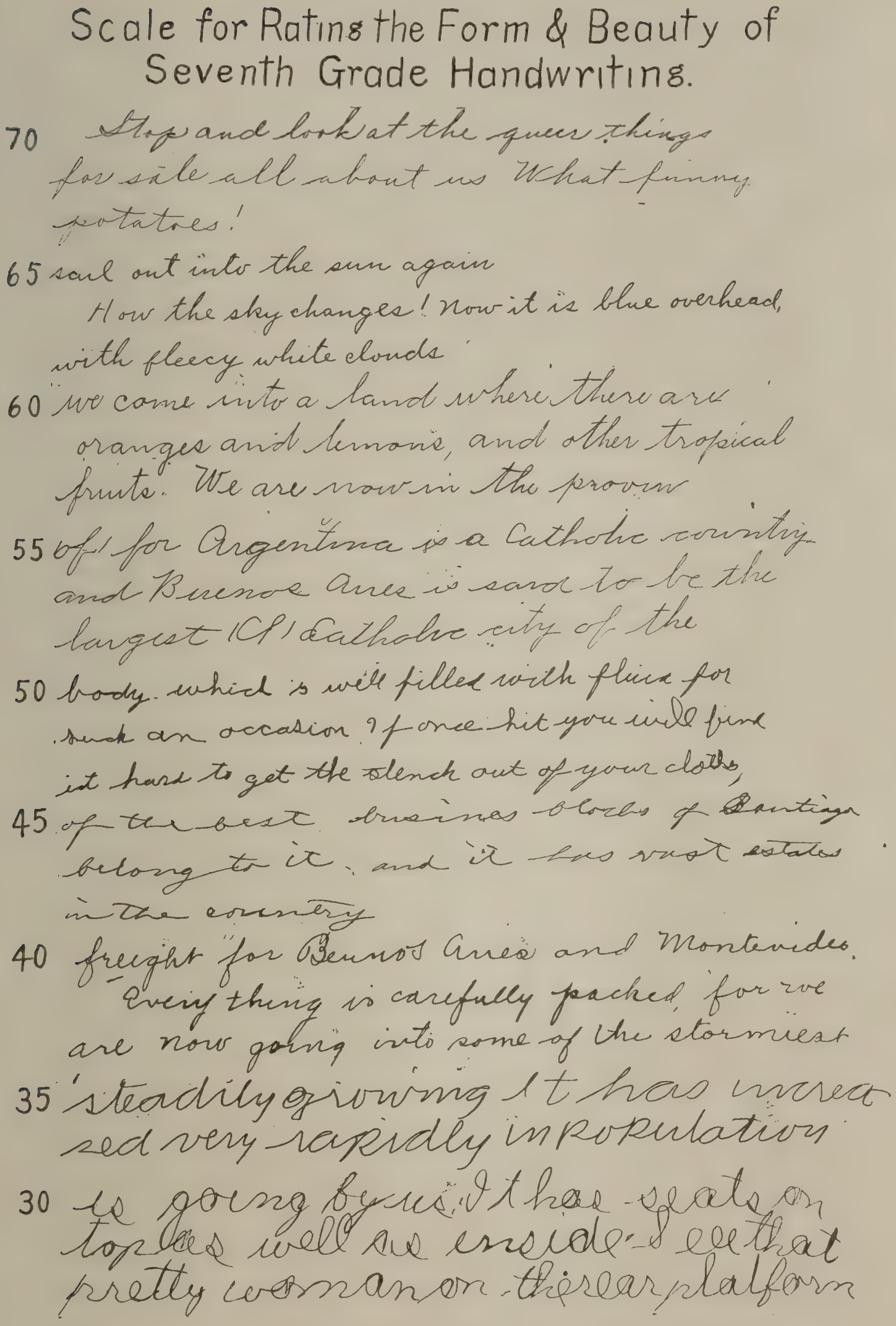
Letters Ave. 547. Writing Time 8 Minutes.

Seconds. Ave. 60. Teacher Miss B.

Fig.2.

NOYES-RANDALL CO. PROVIDENCE R. I.

Figure 3 represents a scale made from one of the seventh-grade classes under consideration. There were 36 pupils in the class. Their writing was arranged into nine groups, according to form and beauty. Then a sample of each group was selected. Fifty was assigned to the middle group, and the other groups were marked above or below 50 by steps of five points variation. When teachers and supervisors come to



Scale for Ratins the Form & Beauty of Seventh Grade Handwritins.

70 Stop and look at the queer things
for sale all about us What funny
potatoes!

65 sail out into the sun again
How the sky changes! Now it is blue overhead,
with fleecy white clouds

60 we come into a land where there are
oranges and lemons, and other tropical
fruits. We are now in the provin

55 of! for Argentina is a Catholic country
and Buenos Aires is said to be the
largest (C!) Catholic city of the

50 body. which is will filled with fluid for
such an occasion. If once hit you will find
it hard to get the stench out of your clothes,

45 of the best business blocks of Santiago
belong to it. and it has vast estates
in the country

40 freight for Beunos Aires and Montevideo.
Every thing is carefully packed, for we
are now going into some of the stormiest

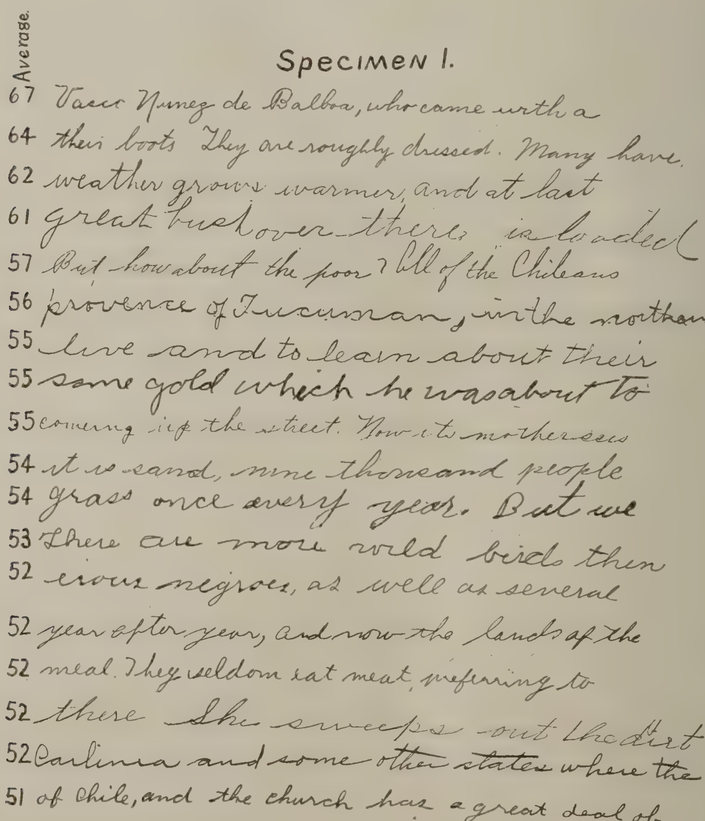
35 steadily growing It has increa
sed very rapidly in population

30 is going by us. It has seats on
top as well as inside. I see that
pretty woman on the rear platform

work out a form and beauty chart of their own, their interest is aroused, and such a home-made chart or scale is not only something very real to them, but it means much more to the pupils (after all, this is the most important thing!) than any chart which can be purchased, no matter how professional it may be in the accuracy of its construction.

Tables 1 and 2 give the results, respectively, of the same two classes graphically represented in Figures 1 and 2.

As necessary as it is to measure all of the elements of writing, it is just as important to have a general or total measure of the individual attainment. It is obviously impossible directly to compare a speed of 387 words, a legibility of 10.2 and a form and beauty of 40. To get around this difficulty, the


Average.
Specimen I.

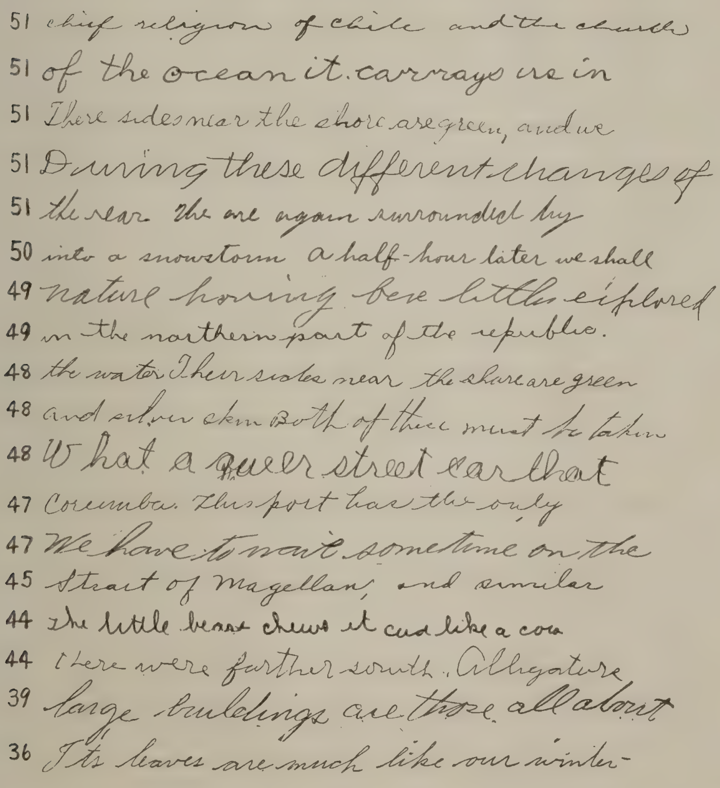
67 Vasco Nunez de Balboa, who came with a
64 their boots They are roughly dressed. Many have.
62 weather grows warmer, and at last
61 great bush over there is loaded
57 But how about the poor? All of the Chileans
56 provence of Tucuman, in the northern
55 live and to learn about their
55 some gold which he was about to
55 coming up the street. Now its mother sees
54 it is sand, nine thousand people
54 grass once every year. But we
53 There are more wild birds then
52 cious negroes, as well as several
52 year after year, and now the lands of the
52 meal. They seldom eat meat, preferring to
52 there She sweeps out the dirt
52 Carlina and some other states where the
51 of Chile, and the church has a great deal of

speed and the legibility are changed to the Weiss index,* which gives a legibility of 51 and a speed of 47. The values assigned to the form and beauty chart have been purposely arranged to conform to the index ratings. Adding 51, 47 and 40 together and dividing by 3 gives a general rating of 46.

Specimens 1 and 2 are the handwritings of the 36 pupils in the second of the seventh-grade classes, arranged according to their average ratings, from the highest to the lowest.

As to form and beauty, the writing of this same class has been rated by the Thorndike, Ayres, Houston and Witham scales. The results are shown in Table 3, but they have been

SPECIMEN 2.



51 chief religion of chile and the church
51 of the ocean it. carrays us in
51 There sides near the shore are green, and we
51 During these different changes of
51 the rear the are again surrounded by
50 into a snowstorm a half-hour later we shall
49 nature having bere little eiplored
49 in the northern part of the republic.
48 the water Their sides near the shore are green
48 and silver skin Both of these must be taken
48 What a queer street car that
47 Corumba. This port has the only
47 We have to wait sometime on the
45 Strait of Magellan, and similar
44 The little beast chews it cud like a cow
44 there were farther south. Alligators
39 large buildings are those all about
36 It's leaves are much like our winter-

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*WEISS, A. P., "A Modified Slide Rule and the Index Method in Individual Measurements." Journal of Educational Psychology, November, 1914.

reduced to the Weiss index, and are more comparable in Table 4. To make the conditions as equal as possible, the Witham results were also changed to the index.

Assuming that none of these scales are absolutely correct, it would seem that the one which gives results the nearest to the average results of the other three is the most reliable scale to use.

TABLE 1.

No. letters written.	Reading time in seconds.	Legibility rating.	Weiss' Index Method.		Form and beauty.	Average.	Rearranged according to average score.
			Legibility.	Speed.			
387 ÷	38 =	10.2	51	47	40	46	64
236	22	10.7	54	29	70	51	64
411	42	9.8	49	51	55	52	62
516	47	11.	56	64	55	58	61
353	44	8.	40	44	40	41	58
474	38	12.5	63	59	60	61	58
333	35	9.4	47	41	45	44	58
516	62	8.3	42	64	35	47	55
479	46	10.4	52	60	45	52	54
454	30	15.	76	57	60	64	53
447	30	14.9	75	56	55	62	53
413	52	7.9	40	51	45	45	52
285	24	11.9	60	35	50	48	52
351	29	12.1	61	44	70	58	51
338	36	9.4	47	42	30	40	48
424	58	7.3	37	53	40	43	48
449	62	7.2	36	56	30	41	47
493	46	10.7	54	61	50	55	47
398	46	8.6	43	50	40	44	47
473	47	10.	51	59	50	53	47
306	42	7.3	37	38	30	35	46
206	26	8.	40	26	30	32	46
431	45	9.5	48	54	40	47	45
633	47	13.5	68	79	45	64	44
390	36	10.8	55	49	55	53	44
488	37	13.2	67	61	35	54	44
485	53	9.1	46	61	35	47	43
487	53	9.2	46	61	30	46	43
471	47	10.2	51	59	30	47	42
275	28	9.8	49	35	60	48	41
268	29	9.2	46	33	50	43	41
550	47	11.7	59	69	45	58	40
468	105	4.4	22	58	30	37	37
171	22	7.7	39	21	65	42	35
390	52	7.5	38	49	45	44	32
Total...14,189	..	346.4	1745	1756	1590	..	1702
Mean... 405	..	9.9	50	50	45	..	49
A. D.... ...	..	...	8.7	11	10	..	6.2

Table 4, column five, gives the averages of the Thorndike, Ayres and Houston scores. Column six indicates the differences between these averages and the Witham scores. There is an average difference of 3.1.

Table 5, column one, gives the averages of the Ayres, Houston and Witham scores. Column two gives the differences between these averages and the Thorndike results. The average difference is 6.2. The minus signs indicate that the

TABLE 2.

	No. letters written.	Legibility.	Legibility index.	Speed index.	Form and beauty.	Average score.	Rearranged according to average score.
	430	10.7	59	39	55	51	67
	641	8.5	43	58	55	52	64
	567	12.1	66	52	50	56	62
	490	10.6	58	44	55	52	61
	469	11.5	63	42	60	55	57
	225	5.2	28	21	60	36	56
	607	8.1	44	55	50	50	55
	606	13.2	61	55	50	55	55
	572	8.5	47	52	55	51	55
	525	6.2	34	47	35	39	54
	641	10.5	60	58	45	54	54
	628	11.2	61	57	35	51	53
	444	13.9	76	40	55	57	52
	604	6.2	34	55	55	48	52
	473	9.4	52	42	65	53	52
	567	13.5	74	52	60	62	52
	839	11.	60	76	65	67	52
	534	8.9	49	48	60	52	51
	514	14.7	81	46	55	61	51
	485	11.5	63	44	45	51	51
	554	13.8	76	50	65	64	51
	498	8.1	44	45	65	51	51
	589	6.9	38	54	55	49	51
	489	9.1	50	44	70	55	50
	514	11.	60	46	50	52	49
	616	7.6	42	56	55	51	49
	545	12.4	57	50	50	52	48
	527	11.	60	48	55	54	48
	520	7.5	41	47	45	44	48
	550	6.8	37	50	55	47	47
	490	6.7	37	44	50	44	47
	590	7.6	42	54	50	49	45
	519	9.8	54	47	40	47	44
	691	9.5	52	63	30	48	44
	617	8.1	44	56	45	48	39
	534	7.4	41	48	45	45	36
Total...	19,704	...	1788	1785	1890	..	1853
Mean...	547	...	50	50	52	..	51.5
A. D....	...	...	13	5.7	14.7	..	4.3

TABLE 3.

	Thorndike.	Ayres.	Houston.	Witham.
	11	70	75	55
	12	80	85	60
	10	50	60	45
	12	60	85	60
	13	80	80	60
	15	80	85	65
	9	50	60	45
	9	40	50	50
	9	40	50	40
	9	30	30	35
	11	50	40	40
	9	30	40	35
	10	40	60	45
	12	40	60	50
	15	70	85	65
	12	60	70	55
	16	90	90	70
	9	50	75	50
	8	30	40	35
	8	30	30	30
	12	70	75	60
	11	60	80	60
	9	30	60	40
	14	80	85	65
	10	60	60	50
	10	60	50	45
	9	50	40	40
	13	70	80	55
	9	50	40	35
	12	40	80	50
	9	50	40	50
	9	60	60	60
	10	50	60	45
	7	20	20	30
	10	40	60	40
	9	40	40	35
Total....	372	2000	2180	1750
Mean....	10.3	56	61	49

average is less than the single (in this case the Thorndike) rating. The third column gives the averages for the Thorndike, Houston and Witham scores. Column four shows the differences between these averages and the Ayres ratings. The average difference is 7.2. Column five gives the averages of the Thorndike, Ayres and Witham scales. The last column shows how the Houston ratings differ from these averages. The average difference is 6.3.

Table 6 summarizes the differences of the four scales as compared to the average ratings of the other three.

It would appear from the above facts that the home-made grade chart (in this case the author's) for rating form and beauty is more reliable to go upon than any of the other handwriting scales yet devised.

[If others try this method, the author would be pleased to learn of the results obtained for the purpose of revising the grade norms already reported in the previous article.]

TABLE 4.

Weiss' Index.				T., A. and H. Averaged.	Difference between W. and Ave.
Thorndike.	Ayres.	Houston.	Witham.		
53	63	62	57	59	2
58	72	70	62	67	5
48	45	49	46	47	1
58	54	70	62	61	1—
63	72	66	62	67	5
72	72	70	67	71	4
44	45	49	46	46	0
44	35	41	51	40	11—
44	35	41	41	40	1—
44	26	24	35	31	4—
53	45	32	40	43	3—
44	26	32	35	34	1—
48	35	49	46	44	2—
58	35	49	51	47	4—
72	63	70	67	68	1
58	54	58	57	57	0
76	80	74	72	77	5
44	45	62	51	50	1—
39	26	32	35	32	3—
39	26	24	30	30	0
58	63	62	62	61	1—
53	54	66	62	58	4—
44	26	49	40	40	0
67	72	70	67	70	3—
48	54	49	51	50	1—
48	54	41	46	48	2—
44	45	32	40	40	0
63	63	66	55	64	9—
44	45	32	35	40	5
58	35	66	51	53	2
44	45	32	51	40	11—
44	54	49	62	49	13—
48	45	49	46	47	1—
34	18	16	30	29	1—
48	35	49	40	44	4
44	35	32	35	37	2

Total..........113
Ave. difference.. 3.1

TABLE 5.

A., H. and W. Averaged.	Difference between T. and Ave.	T., H. and W. Averaged.	Difference between A. and Ave.	T., A. and W. Averaged.	Difference between H. and Ave.
61	8	57	6—	58	4
68	10	63	9—	64	6
47	1—	48	3—	46	3
62	4	63	9	58	12
67	4	64	8—	69	3—
70	2—	70	2—	70	0
47	3	46	1	45	4
42	2—	45	10	43	2—
39	4—	42	7	40	1
28	16—	34	8	35	11—
39	14—	42	3—	46	14—
31	13—	37	11	35	3—
43	5—	48	13	43	6
45	13—	53	18	46	3
70	2—	70	7	67	3
56	2—	58	14	56	2
75	1—	74	6—	76	2—
53	11—	52	7	47	15
31	8—	35	9	33	1—
27	2—	31	5	32	8—
62	4	61	2—	61	1
61	8	60	6	56	10
38	6—	44	18	37	12
70	3	68	4—	69	1
51	3—	49	5—	51	2—
47	1—	45	9—	49	8—
39	5—	39	6—	43	11—
61	2—	61	2—	60	6
37	7—	37	8—	41	9—
51	7—	58	23	48	18
43	1—	42	3—	47	15—
55	11	52	2—	53	4—
47	1—	48	3	46	3
21	13—	27	9	27	11—
41	7—	46	11	41	8
34	10—	37	2	38	6—
Total..........	222		269		228
Ave. difference..	6.2		7.2		6.3

TABLE 6.

	T.	A.	H.	W.
No. of ratings with a difference of 0................	..	..	1	5
“ “ “ “ “ “ 1................	5	1	4	10
“ “ “ “ “ “ 2................	6	5	4	5
“ “ “ “ “ “ 3................	3	4	6	3
“ “ “ “ “ “ 4................	4	1	3	5
“ “ “ “ “ “ 5................	2	2	..	4
“ “ “ “ “ “ 6................	1	4	4	..
“ “ “ “ “ “ 7................	3	3	..	..
“ “ “ “ “ “ 8................	3	3	3	..
“ “ “ “ “ “ 9................	..	5	1	1
“ “ “ “ “ “ 10................	2	1	1	..
“ “ “ “ “ “ 11................	2	2	3	2
“ “ “ “ “ “ 12................	..	..	2	..
“ “ “ “ “ “ 13................	3	1	..	1
“ “ “ “ “ “ 14................	1	1	1	..
“ “ “ “ “ “ 15................	..	..	2	..
“ “ “ “ “ “ 16................	1	..	..	..
“ “ “ “ “ “ 17................	..	..	..	..
“ “ “ “ “ “ 18................	..	2	1	..
“ “ “ “ “ “ 23................	..	1	..	..
	36	36	36	36

DISCUSSIONS AND COMMUNICATIONS

STANDARDIZING STANDARDS IN EDUCATION!

H. O. RUGG
University of Illinois

THE articles in this issue by Superintendent Witham and Professor Thorndike call attention to the fact that the movement for the measurement of results of the teaching process in various subjects of study is reaching its third phase, *i. e.*, the designing and utilizing of measuring "scales" by teachers, supervisors and administrative officers. Certain issues raised again by Mr. Witham's methods deserve comment.

First, as to the pragmatic values of such scales of measurement. The "measuring" movement, even to and including Mr. Witham, has been thoroughly objective and quantitative, laying its emphasis on *the checking up of results of the teaching process.* Superintendent Witham, speaking for the school man, points out the value of "home-made scales," and finds their principal function to be the stimulating of professional interest and esprit de corps on the part of the teaching staff. With this as one of the many valuable outcomes of the movement we are in thorough accord. There are other outcomes, however, which seem to point to certain fundamental oversights of the whole measuring movement, namely, except, incidentally, the oversight of the function of these "scales" in contributing to the advancement of the teaching process itself.

In handwriting we probably have a sufficient number of scales whose objective measuring power is roughly established—whether within an average deviation of 7.90%, 5.5% or 8.68% (as per Weiss, Pintner, Kelley or Witham) is immaterial for the moment. As measures of *results* they can and are being checked up by students of education and school administrators. Their relative validity will soon be established. But there is evident a need for a more adequate connection to be made between this function of resultant standards and the educational insight which the standards may offer to the improvement of the teaching process itself. It seems clear that this connection can come only by designing scales of measurement with reference to detailed consideration of the psychology of learning in the subject of study in question and of the related psychology of the teaching process. Up to the present time no such attack has been made on the problem.

Mr. Witham's use of the "index method" calls the attention of subsequent investigators and interested school administrators to the obvious need of maintaining a critical attitude toward novel and untried statistical devices as applied to educational measurement. In this connection we would point out again the questionable use of the index method of comparing traits measured in different units (see T. L. Kelley, J.E.P., Dec., 1914). Use should be made of those "standard measures" which have stood the fire of mathematical criticism. Apropos of Mr. Witham's comparison of the relative efficiency of scoring, done on his and three other handwriting scales, we would suggest that such *comparison should be made in terms of units of deviation of the various scales in question.* The index method is only roughly correct, in so far as it makes measures comparable with respect to being greater than or less than the index base selected, but it does not accurately differentiate degrees of deviation from that base. Hence, we shall wish to check up Mr. Witham's conclusions as to the relative reliability of various "scales" in handwriting through the use of statistical methods which seem to us to have greater established validity.

Furthermore, certain additional methods of procedure in this particular investigation emphasize the critical necessity of eliminating such questionable factors as are illustrated by the following: the determination of a student's rate of reading by his own writing as a measure of legibility, the determination of speed by the rate of copying material from school readers, and the failure to report satisfactorily the method of determining quality of the handwriting samples used in the investigation.

REORGANIZATION OF SECONDARY EDUCATION AND THE NORTH CENTRAL ASSOCIATION

Charles Hughes Johnston
University of Illinois

IT is significant that two committees of the North Central Association working upon supposedly different problems found themselves centering their main interests upon some rearrangement of grades so as to include within the secondary field more years of schooling and so as to present a more compact organization of content of instruction in the interests of economy of time and of unity of curriculum design.

The noteworthy feature of the first report made by the *Committee on the Reorganization of the American High School* was that it concerned itself primarily with the formulation of *principles* which should guide in rearranging the grades of a public school system—let these principles lead where they will. The report of the *Committee on the Definition of the Unit* served as an illustration of one way in which such principles of reorganization might be interpreted.

The report of the first committee named above is as follows:

A TENTATIVE FORMULATION OF GUIDING PRINCIPLES FOR THE REORGANIZATION OF EDUCATION.*

The divisions of education, already roughly characterized as elementary, secondary and higher, should, for the sake of more effective organization and administration, be distinguished primarily from the point of view of the maturity of the student concerned. The three factors by which these grades of education may be distinguished are: (1) methods employed, (2) subject-matter selected and (3) the characteristic educational outcomes which may reasonably be expected of the student at the completion of any one of these stages.

ELEMENTARY EDUCATION.

The *method* of elementary education consists primarily in organizing the instincts and impulses of pre-adolescent children into working tools and interests. It is a process of providing fertile experiences and exercises by means of which the qualities of non-reflective childhood may be preserved while essential educational forms and instruments for later intellectual use are being systematically acquired.

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*This report on "guiding principles," after full discussion, was "formally accepted" at the recent annual meeting of the North Central Association March 19, 1915, Chicago. The committee was continued, with instructions to work out further, in conjunction with the standing Committee on Units, a definite program of reorganization.—EDITOR.

In *subject-matter* elementary education utilizes systems of simplification and organization of educational materials wholly without reference to the logical principles which determine the differentiation of the well-recognized fields of knowledge of the different college subjects of study. No quantitative unit system of evaluation with reference to high school entrance requirements for this elementary education is desirable or practicable.

The *outcome* of elementary education should be a pre-adolescent child with wholesome interests, alert curiosity, free from self-consciousness and capable of communicating and of enjoying the expression of his own experiences by means of the school arts and disciplines of the elementary curriculum.

"Secondary Education" has for its particular sphere the general information and training in the facts and arts of civilized life. It may be roughly distinguished from elementary education as being primarily concerned, *on the side of subject-matter,* with the differentiated character of the various subjects of instruction, and from higher education by the essentially elementary and general character of these differentiated fields of knowledge. *On the side of method* secondary education may be distinguished from elementary in that it involves primarily an appeal to the pupil's appreciation, judgment and sense of relative values, and places its greatest emphasis upon self-revelation and trained individuality, rather than upon the "organization of instincts and impulses of children into working interests and tools," the formal aspects and instruments of education. *In method* secondary education is to be distinguished from higher education in that the former wholly excludes and the latter only includes subjects involving relative maturity of mind and of treatment. Higher education requires a mental attitude of detachment from subject-matter, whereas in method in secondary education the teacher must personally evaluate the content of studies.

One may reasonably expect as the characteristic *outcome* of secondary education for one group of students the sustained interest, the impelling motive and the training adequate to pursue effectively work in one or more of the studies represented in the programs of higher education, and for the other group the capacity for effective service in a well-recognized occupation and with an equally adequate capacity for profitable enjoyment of leisure.

The committee recognizes the fact that the principles above tend considerably to extend the years of secondary education, and therefore feels the desirability of pointing out that there are distinguishing characteristics of the lower and the upper divisions of this grade of work.

It feels that during this *transition period,* which it designates as "lower secondary," we must recognize the fact of adolescence by a gradual adoption of secondary methods of discipline, of personal appeal, and of choice of subjects, departing only gradually from the teaching methods of elementary education.

Likewise with reference to curriculum differentiation and distinctions between pupil groups, it feels that practical uniformity in the scheme of training should prevail in elementary education; that partial differentiation only should prevail in lower secondary education, and that a reasonable number of relatively distinct and parallel curriculums, or schemes of instruction designed for the large distinguishable student groups should, where feasible, characterize the work of upper secondary education.

Henry E. Brown, Chairman;
George Buck,
Otis W. Caldwell,
Chester B. Curtis,
C. O. Davis,
Charles Hughes Johnston,
E. V. Robinson,
Committee on Reorganization of the American High School.

The report of the *Committee on the Definition of the Unit* (F. L. Bliss, chairman,) assumed that there is no question of the general desirability that, as local conditions permit, elementary schools should be confined to the first six grades, and that the secondary period should include the next six or eight years. It further suggests that this secondary period should be subdivided into two periods of equal length. The main divisions of educational work should, therefore, according to this committee, be subdivided as follows: Elementary period, six grades, with instruction practically uniform in character; the lower secondary period, three or four or possibly five grades, depending upon the pupil's ability, with instruction of the character of the usual work in the seventh, eighth, ninth and tenth years of high school, and the upper secondary period, three or four years, with instruction as good as that now given in the first two years of our best colleges. The committee defines conditions all along which may determine in individual cases whether a year or more may be added to or taken from the normal time for completing the school period. Other interesting suggestions in this second report were that there should be a clearly-defined statement of college units for the work now commonly referred to as offered in the freshman year; that the unit for the work done in the lower secondary period should be so defined as to distinguish it clearly from the work of the upper secondary period and so as to evaluate it differently for college entrance, and that as the pupil progresses in his school career he should usually plan for a gradual restriction of the number of subjects prescribed. In his last few years his efforts should be concentrated upon not more than three subjects.

The reports of both committees were "formally accepted" and the committees retained, with instructions to work conjointly on the problems tentatively outlined in the preliminary work of the year.

MEETINGS OF THE COMMISSION ON THE REORGANIZATION OF SECONDARY EDUCATION

Clarence D. Kingsley, Chairman

IN connection with the meetings of the Department of Superintendence of the N. E. A. at Cincinnati, the Commission on the Reorganization of Secondary Education held a series of six public meetings and various committee meetings, February 24, 25 and 26, 1915.

The Commission contains committees that are working on the reorganization of the teaching of the various high school subjects: English, social studies, sciences, ancient languages, modern languages, agriculture, business, household arts, manual arts and music. Preliminary reports of these committees have been published by the United States Bureau of Education in Bulletin No. 41, 1913. entitled "The Reorganization of Secondary Education."

The Commission contains also a Reviewing Committee, which will attempt to formulate a statement of the general purposes of the modern high school, and, in the light of this statement, criticize the reports of the subject committees. Through this plan of organization the reports of the Commission will embody the detailed knowledge of those who are specialists in the teaching of each subject combined with the criticism of a committee that approaches secondary education from many points of view.

This Reviewing Committee met February 25 to decide whether it should regard secondary education as beginning with the seventh or with the ninth grade. There were present Hon. P. P. Claxton, United States Commissioner of Education; Thomas H. Briggs, Professor of Secondary Education, Teachers' College, New York; Will Earhart, Director of Music, Pittsburgh, Pa.; James Fleming Hosic, Professor of English, Chicago Normal College; Charles Hughes Johnston, Profesor of Secondary Education, University of Illinois; Thomas Jesse Jones, United States Bureau of Education; Frank M. Leavitt, Professor of Industrial Education, University of Chicago; James H. McCurdy, Director of Physical Education, International Y. M. C. A. College, Springfield, Mass.; William Orr, Deputy Commissioner of Education, Massachusetts; William B. Owen, President Chicago Normal College; Joseph S. Stewart, Professor of Secondary Education, University of Georgia; Milo H. Stuart, Principal Manual Training High School, Indianapolis; H. L. Terry, High School Inspector, Wisconsin, and Clarance D. Kingsley, High School Inspector, Massachusetts (chairman). A. V. Storm, Professor of Agricultural Education, University of Minnesota, and William B. Snow, English High School, Boston, were represented by George A. Works and C. H. Handschin, respectively. J. Stanley Brown, Superintendent and Principal of Joliet High School, Illinois, and Arthur W. Dunn, United States Bureau of Education, were also present.

Discussion as to the advisability of including the reorganization of the seventh and eighth grades in the work of the Commission brought out the following considerations favoring such inclusion:

(1) Many school systems are now struggling with problems in the reorganization of the seventh and eighth grades.

(2) Several committees in the Commission already contain members who are qualified to deal effectively with the teaching of their subjects in these grades, and others may readily be added.

(3) If the Commission does not include the reorganization of these grades, its report, when issued, will be of little value in school sys-

tems organized on a 6-6 plan, the number of which systems is rapidly increasing.

(4) The adoption of the 6-6 plan should be encouraged whenever the work of the seventh and eighth grades can be properly reorganized.

In view of these considerations, the Reviewing Committee voted unanimously to interpret the term "secondary education" as including the work of the seventh and eighth grades, and to request each committee to consider the problems in these grades.

Mr. H. L. Terry, on behalf of the smaller high schools, stated that there is danger that such schools will adopt the 6-6 plan without a thorough understanding of the kind of reorganization that should be made. He believed that high school discipline is not applicable without modification to the seventh and eighth grades, and that when pupils from grades seven to twelve are placed in one building the problems of discipline should receive definite consideration. He also spoke in favor of the term "Intermediate School," instead of the term "Junior High School," for the seventh and eighth grades, or the seventh, eighth and ninth grades. The Reviewing Committee requested its Committee on Terminology to investigate and report as to which term is preferable.

The Reviewing Committee also decided to hold a three or four-day meeting for the purpose of considering the reports of the committees, and voted to notify each committee that their work should be pushed as rapidly as possible. In view of the difficult problems to be solved, it was decided to give the committees until October 1 in which to make their reports. The Reviewing Committee will then meet as soon as possibe thereafter and issue the first complete report of the Commission.

CURRICULUM DIFFERENTIATION AND ADMINISTRATION IN TYPICAL HIGH SCHOOLS

C. E. Holley
University of Illinois

THE remarkable growth of American high schools during the past twenty years has been accompanied by a corresponding evolution of the material taught. But as the growth of any institution when rapid is frequently along special lines, it often happens that ideas evolve without being clearly recognized and, not being recognized, are imperfectly labeled. This is the case with our high schools. The rapid differentiation which resulted from attempts to more adequately meet the needs of the pupils resulted in three ideas, all designated by the term "course of study" in high school bulletins.

As soon as an attempt was made to discuss these ideas the writer felt the need of a more definite terminology. Since several writers have used a nomenclature, perfectly adequate, it was thought best to adopt the same. The simplest idea is the one for which the term "course of study," or "course," when abbreviated, has been reserved. Accordingly,* (1) "a 'course' means simply the quantity, kind and organization of subject-matter in any high school subject offered within a definite period of time for which a credit unit or a fraction of a credit unit toward graduation is granted, as second-year Latin or first-year algebra." (2) "A 'curriculum' is any systematic and schematic arrangement of courses which extends through a number of years, and which leads to a certificate or diploma, and which is planned for any clearly-differentiated group of high school pupils. Administratively, a curriculum represents an arrangement of courses within which a pupil is restricted in his choice of work leading to graduation." (3) "A 'program of studies' is the complete list of courses, curriculums, etc., offered in a high school and all regulations governing their administration, such as 'required subjects,' 'electives,'" etc. The administrative curriculums were examined in the investigation reported here with the intention of ascertaining if they were planned for the clearly-differentiated groups of high school pupils which their labels implied.

The facts on which this paper is based were secured from the bulletins of 54 high schools, located in cities of 4000 or more inhabitants, selected at random throughout the United States. The bulletins were printed between the years of 1912 and 1914.

Results.—It was found that seven subjects—English, algebra, geometry, German, Latin, physics and history—were offered in all of the schools. Within any one of these subjects, however, there was a wide variation in content. Even such a standardized subject as English was far from uniform. History varied widely: no one brand, not even United States history, was offered in all schools. The subjects offered and the schools offering them are given in Table I.

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*"Curriculum Adjustments in Modern High Schools." Charles Hughes Johnston, School Review, November, 1914.

TABLE I.

The Subjects and the Number of Schools Offering Each.

Subject.	No. of schools offering it.
English	(54) All
Algebra	“
Geometry	“
Latin	“
German	“
Physics	“
History	“
Chemistry	49
American History	44
Civics	42
Bookkeeping	41
Physiography	37
Penmanship	36
Stenography	36
Ancient History	35
Commercial Arithmetic	35
Botany	35
Commercial Geography	34
Typewriting	34
Domestic Science	34
French	34
Modern History	33
English History	32
Manual Arts	31
Trigonometry	31
Physiology	30
Medieval History	25
Mechanical Drawing	25
Zoology	24
Economics	23
Arithmetic	23
Free-hand Drawing	22
Domestic Art	22
Commercial Law	21
Elementary Science—Biology	20
Spelling	19
Greek History	14
Roman History	14
Business Practice	13
Music	13
Elementary Agriculture	12
Greek	11
Pedagogy	10
Astronomy	9
Physical Training	9
Psychology	8
Commercial Correspondence	7
Geology	7
Woodwork	6
History of Education	6
Art	5
Elementary Reviews	5
Spanish	5
History of Music	4
Office Practice	4
Designing	4
Forge Work	4
Lathe Practice	4
Pattern-making	4
Public Speaking	4
Animal Husbandry	3
Farm Mechanics	3
Millinery	3
European History	3
Ethics	3
Foundry	3
Argumentation	3
Instrumental Music	2
Vocal Music	2
Dressmaking	2
Horticulture	2
Farm Crops	2
State History	2
Commercial History	2
Agriculture:	
Scientific Projects	1
Kitchen Gardening	1
Market Gardening	1
Ornamental Planting	1
Farm and Shop Work	1
Buildings and Appliances	1
Animals	1
Home Nursing	1
Household Decorations	1
First Aid to Injured	1
Political Science	1
Observation of Teaching	1
Practice Teaching	1
Logic	1
Architecture	1
Machine Shop	1
Metal Work	1
Dramatics	1
College Reviews	1
Agronomy	1

The administration of the program of studies at first glance divided along two distinct lines. A minute analysis showed that, in the actual working out, these shaded indistinguishably into one another. The superficial division was used, however, as the basis for the following discussion: The first plan, called the "curriculum plan," divided the program of studies into from two to eight curriculums. These were variously named and arranged. The second plan, called for convenience the "non-curriculum plan," offered the program of studies as one "bill-of-fare" open to all, certain courses of study being required of all pupils. For the remainder of their work the pupils chose from the entire list of electives, usually under certain restrictions with regard to sequence of courses and advancement in the curriculum.

The 40 schools which used the curriculum plan of administration offered a total of 186 curriculums. In three schools they were described too inadequately for the purposes of the writer, and were

TABLE II.

Curriculums Offered in the Forty High Schools.

Curriculums.	No. of schools offering.
Academic—Classical—College Preparatory	30
Scientific—Science—English Scientific—Technical Preparatory	27
Commercial	26
General	16
English	12
Normal Training	9
Ancient Language—Latin	7
Manual Arts—Mechanic Arts—Manual Training	7
Modern Language	6
Domestic Arts—Household Science	5
History	3
Agricultural	3
Three-year Commercial	3
Two-year Commercial	2
Two-year Business	2
Subclassical	1
Industrial	1
Co-operative Commercial	1
Co-operative Industrial	1
Three-year Industrial	1
Two-year Carpentry	1
Two-year Domestic Arts	1
Two-year Bookkeeping	1
Two-year Stenographic	1
Five-year General	1
Five-year Latin	1
Normal Preparatory	1
Music	1

not considered. As a result, only 171 were analyzed. If the labels are considered as truly representing the composition of these curriculums, 106 out of the 171 may be said to be traditional. The other 65 have vocational pretentions, although some of them have little to justify their pretentions. These 171 curriculums were variously named in the different schools, as is shown by Table II.

It was found that there was a wide variation in content among the curriculums given. This is perhaps best shown by the amount of work prescribed in the traditional subjects in each curriculum. This is given in Table III.

It is impossible to give a detailed discussion of the facts shown in Tables II and III. Every one of the 10 curriculums which was offered in five or more schools was totally prescribed in at least one school. On the other hand, a number of schools permitted three-fourths of the work in some curriculums to be chosen by the pupils. The average per cent. elective ranged from 12 to 25 in the different curriculums.

It might be instructive to describe somewhat in detail two opposite types of curriculums, the "general" and the "commercial." The term "general curriculum" called up to the mind of the writer a curriculum which was planned for those pupils who did not care to go to college, and who, because somewhat undecided as to their future, needed a general finishing education. Such a curriculum would offer more electives than the others, and would prescribe but little work in the traditional subjects, especially the foreign languages. The facts proved to be otherwise in some of the schools. The content varied from that of the rigid college preparatory curriculum to that of the most ideally general or finishing type. Excepting the cases where the name has been entirely misapplied, this type of a curriculum was very elastic, prescribing little other than English, and especially slighting the foreign languages.

The commercial curriculum offered by 28 schools is one which has a distinct vocational goal that has long been recognized by administrators. Because of this fact it should be well standardized. It was not found to be so, however. The only subjects which were prescribed by all were English, bookkeeping or business practice, and commercial arithmetic or arithmetic. The details with respect to the other subjects are given in Table IV.

TABLE III.

Number of Curriculums Prescribing Various Amounts of Work in Traditional Subjects, by Types.

	Years Prescribed.								
General Curriculum:	None	1	2	3	4	5	6	7	8
English	..	..	..	4	12	..	..	..	..
Foreign Languages	11	..	1	..	3	..	1	..	..
Mathematics	4	3	2	5	2	..	..	..	..
History and Social Science	4	4	3	3	2	..	..	..	..
Natural Science	6	3	3	2	2	..	..	..	..
Academic:									
English	..	..	2	6	22	..	..	..	..
Foreign Languages	3	..	2	4	15	1	2	2	1
Mathematics	1	..	9	16	4	..	..	..	..
History and Social Science	7	13	4	4	2	..	..	..	..
Natural Science	10	11	7	2	..	..	..	..	..
Ancient Language:									
English	..	..	..	3	4	..	..	..	..
Foreign Language	..	..	..	..	3	..	1	3	..
Mathematics	..	..	2	4	1	..	..	..	..
History and Social Science	2	4	1	..	..	..	..	..	..
Natural Science	1	6	..	..	..	..	..	..	..
English:									
English	..	..	..	1	11	..	..	..	..
Foreign Language	9	..	1	1	1	..	..	..	..
Mathematics	1	..	2	5	4	..	..	..	..
History and Social Science	2	1	3	2	4	..	..	..	..
Natural Science	2	2	1	3	4	..	..	..	..
Modern Language:									
English	..	..	..	1	5	..	..	..	..
Foreign Language	..	..	..	2	3	..	1	..	..
Mathematics	..	..	1	4	1	..	..	..	..
History and Social Science	2	3	1	..	..	..	..	..	..
Natural Science	2	2	1	1	..	..	..	..	..
Scientific:									
English	..	..	2	6	19	..	..	..	..
Foreign Language	8	..	11	3	4	..	1	..	..
Mathematics	1	..	5	7	14	..	..	..	..
History and Social Science	7	10	5	4	1	..	..	..	..
Natural Science	1	5	7	6	8	..	..	..	..
Commercial Curriculum:									
English	..	..	..	5	21	..	..	..	..
Foreign Language	23	..	3	..	..	..	..	..	..
Mathematics	5	9	7	3	2	..	..	..	..
History and Social Science	3	9	9	4	1	..	..	..	..
Natural Science	7	16	3	..	..	..	..	..	..
Manual Arts:									
English	..	..	1	1	5	..	..	..	..
Foreign Language	6	..	1	..	..	..	..	..	..
Mathematics	..	1	1	2	3	..	..	..	..
History and Social Science	1	2	4	..	..	..	..	..	..
Natural Science	1	2	3	1	..	..	..	..	..
Domestic Arts:									
English	..	..	..	..	5	..	..	..	..
Foreign Language	4	..	1	..	..	..	..	..	..
Mathematics	..	1	1	2	1	..	..	..	..
History and Social Science	2	2	..	1	..	..	..	..	..
Natural Science	..	1	2	..	2	..	..	..	..
Normal Training:									
English	..	..	..	5	4	..	..	..	..
Foreign Language	7	..	1	1	..	..	..	..	..
Mathematics	..	..	1	4	4	..	..	..	..
History and Social Science	..	1	4	1	2	..	1	..	..
Natural Science	..	1	6	2	..	..	..	..	..
Total of Other Four-Year Curriculums. None Was Offered by More than Four Schools:									
English	..	..	..	..	12	..	..	..	..
Foreign Language	6	..	3	2	1	..	..	..	..
Mathematics	2	..	4	5	1	..	..	..	..
History and Social Science	2	1	6	..	3	..	..	..	..
Natural Science	3	3	1	2	3	..	..	..	..

TABLE IV.

Analysis of the Commercial Curriculums.

A. Prescribed Commercial Work in 28 Schools.

Subject.	Total units* prescribed.	No. of schools which do not prescribe.
Bookkeeping	52	1
Stenography	48	4
Typewriting	45	5
Penmanship	28	11
Commercial Arithmetic	23	6
Commercial Law	21	7
Commercial Geography	20	8
Spelling	14	17
Business Practice	13	20
Commercial Correspondence	7	21
Office Practice	5	24
Commercial History	2	26
B. Prescribed in Non-Commercial Work.		
English	107	0
History	32	7
Algebra	23	9
Civics	14	14
Physical Training	14	23
Geometry	10	19
Economics	9	19
Physics	8	20
Music	8	26
Physiography	6	22
German	6	25
Physiology	5	23
Arithmetic	4	24
Elementary Biology	4	24
Ethics	4	27
Drawing	4	27
French	2	27
Mathematics	2	27
Chemistry	1	27
Science	1	27
Political Science	1	27
Domestic Science	1	27
Mechanical Drawing	1	27

*A unit is one-fourth of a year's work

Fourteen schools used the non-curriculum plan in offering their work. Every one of these schools offered some elective work, on an average of 51 per cent., one school permitting the pupils to choose 81 per cent. Restrictions were frequently placed on the choice of electives. In some schools the pupils' choices were restricted to a limited number of courses for each year. In others, certain group requirements were set which limited the choice to alternatives. Occasionally a note was placed at the end of the program of studies which added further limitations of election.

Two general modes or procedures were the rule in adjusting the program of studies to the pupils. One made it the duty of the principal to see that each pupil had the work for which he was best fitted. The other parceled out the work among the teachers and made each the advisor of a group of pupils who were studied in and out of school and, on the basis of this knowledge, helped to select the best program of work.

CONCLUSIONS AND SUMMARY.

English, algebra, geometry, German, Latin, physics and history were the only subjects which were *offered* in all the schools.

English was the only subject which was everywhere *prescribed.* The quantity and content of instruction in it varied considerably among the different schools, and sometimes, even, among the various curriculums of one school.

Normal training and commercial curriculums were the only distinctly vocational types found in any considerable number of schools. These were poorly designed in some cases, and showed a decided conformity to the traditional academic type of high school curriculum.

Bookkeeping and English were the only subjects universally prescribed in the commercial curriculum.

There were two methods of administering the program of studies. One, the non-curriculum plan, offered the program of studies as a whole to each pupil. A few courses were required of all, and the remainder of the work was selected according to the needs of each pupil. This plan required a constant close supervision to be successful, but offered every opportunity to adjust the school to the needs of each pupil. The other, the curriculum plan, divided the program of studies into curriculums which prescribed the most of the work.

The choice of electives was greatly restricted, and after the pupil had chosen a curriculum there was little need for much supervision or advising of the pupil unless he wished to change curriculums. The second plan is apt to become semi-automatic and the accompanying advice perfunctory. The two plans shaded into each other in actual practice.

Curriculum differentiation has been attempted by many who have had hazy ideas as to what they were doing. Few curriculums were found which were planned for a clearly-differentiated group of pupils. The most of them were mere "paper" or administrative curriculums. It seems that few school men are doing real "curriculum thinking."

The machinery of curriculum administration is poorly developed as yet in so far as can be ascertained from the school bulletins. The two main methods employed are these: (1) The principal advised the students himself, or (2) he delegated the work to the teachers, who acted as advisors of small groups.

Undoubtedly "curriculum differentiation" is the great modern high school issue. Its success depends upon many factors, such as efficient systems of educational advice and guidance, clearly and continuously correlated courses organized into distinguishable curriculums, pupil groups divided with reference to their different curriculum requirements, and many other new but vital educational adjustments. The purpose of this brief discussion has been to show that, with all our many theoretical discussions of developments in high school instruction and organization, we have yet, even on paper, really made little progress toward genuine differentiation of our instructional programs.

BOOK REVIEWS

VOCATIONAL GUIDANCE LITERATURE

Meyer Bloomfield. *The Vocational Guidance of Youth.* Boston: Houghton, Mifflin Company, 1911. Pp. xiii + 124.

This book, first published four years ago, marked the beginning of a new series of publications, and likewise the opening of a new field to the educator. The book, as might be expected, is a record of beginnings—a record of the early attempts to systematize the methods of vocational guidance then being tried out for the first time in Boston. These methods have since crystallized into principles on which vocational guidance systems in various cities have been based. The book is filled with suggestive material which is still of current interest to the vocational counselor, or, in fact, to any friend of youth.

Meyer Bloomfield. *The School and the Start in Life.* Bulletin No. 575. Washington: Bureau of Education, 1914. Pp. 146.

This bulletin is the result of several months of careful investigation of the relation between the school and employment in England, Scotland and Germany. Attention is given to the guidance and placement schemes now in operation in the chief Scottish and English cities. The workings of the Labor Exchange Act (1909) and the Choice of Employment Act (1910), under which London handles 70,000 "leaving-children" each year, is instructive to all who are interested in guidance problems. These laws provide for local labor exchanges, placement committees, medical examinations and industrial surveys. A follow-up service helps to make the system efficient.

The bulletin contains also copies of the many blank forms needed in the placement and follow-up systems, and which form so vital a part of it. An extensive bibliography adds very much to the value of the bulletin.

Vocational Guidance. Bulletin No. 14. Washington: Bureau of Education, 1914. Pp. 94.

In the above bulletin are to be found the papers read at the meeting of the National Vocational Guidance Association, held in Grand Rapids, Mich., in October, 1913. This was the third national meeting of this character, and marked the completion of the organization of these forces into a working unit.

The relation of guidance to the child labor problem; human waste through the lack of guidance; opportunities to be found in the recognized vocations; psychological tests and their relation to vocational guidance; guidance by means of differentiated curriculums; and systems of guidance in actual use today and their results—these are a few of the subjects of importance which were treated at greater or less length during the four-day session of the conference. The various discussions are of high character, and help to illumine the whole big problem of vocational guidance.

Jesse B. Davis. *Vocational and Moral Guidance.* Boston: Ginn & Co., 1914. Pp. viii + 303. $1.25.

This book is the result of the author's personal experience in the Grand Rapids school system. He contends that moral worth is the end to be attained by the pupil through the proper functioning of the school. Each department of school activity must be quickened through social contacts. Athletics, school assemblies and other activities should function to produce leaders. The English department can be made to function in vocational and moral guidance. To this end, therefore, boys and girls study vocations and industries and write about them rather than about things which have no interest for them. The need for character in the truly successful life is enforced with telling effect as the pupils here come in contact with men and with the various vocations in the city. The vocation is looked upon as not alone a means of livelihood, but as an opportunity for service as well.

Such, in brief, is the general character of the book. Whatever criticisms may be made upon the book as a whole, nevertheless the fact remains that it is the result of high idealism on the one hand and, on the other, of a desire to raise the public school to a high plane of the practical; to strengthen the inherent love of right conduct and fair play of the adolescent boy and girl until it becomes an established standard of conduct; to launch him with even keel upon his life work, believing that that life work, when rightly conceptualized, will serve as ballast throughout the trip. Perhaps this optimism is extreme, for it is safe to assert that the "socialized conscience" is not to be secured by mere visitation and criticism of an industrial plant, or of many such plants. Nor may it be secured through the writing of a theme on the ethics of a profession. So very much is dependent upon the teacher here that it would seem to be almost an absolute necessity that he be a trained sociological expert as well as a skilled teacher of English if the pupil is to profit by his work. Upon the skilled leadership in the discussion of the social problems involved will depend the success or failure of the method.

The book is well organized, and contains much material of value. Forms for placement records, for system of following up of children in employment and other data make the book very practical and very helpful. Furthermore, the method is adapted to the small school as well as the large; it has been thoroughly tested and modified as experience showed need; and, finally, it marks a new departure in educational method, is a new milestone set up in our march toward complete reorganization of the school in the interest of every boy and girl.

J. ADAMS PUFFER. *Vocational Guidance.* Chicago: Rand, McNally & Co., 1913. Pp. 306.

The author of this little volume is convinced that the way to save the "bad boy" is to find work in which he can be happy. To find this work, the boy should be given opportunity to try his hand at the various kinds, on the farm especially, or in the shop or store, until his aptitude has been discovered. When this point has been reached, give him expert training in the line needed.

Among the subjects discussed in the book are: The need for and effect of guidance; the equipment and methods of the vocational counselor; available occupations, and blind-alley jobs. Considerable data has been included from the census reports and from the reports of the Department of Labor which have a vocational bearing. The charts and graphs are good. The large number of good illustrations adds to the attractiveness of the book, if not to its value.

While presenting nothing particularly striking from an educational or vocational point of view, nor attempting to offer any fundamental solution of the problem of vocational guidance, yet the book offers numerous suggestions on the general problem and suggests materials with which to work. It is perhaps too general in nature to be of great service to the counselor who is facing problems, or to the school administrator who is seeking help. It shows the need of guidance and gives some very general advice, but offers very little in a specific way toward the end sought.

JAS. HOWARD HANGER.

The University of Illinois.

H. H. HOLLISTER. *The Administration of Education in a Democracy.* New York: Scribner's, 1914. Pp. xv, 383. Price —.

In this Professor Hollister aims to give a preliminary treatment of educational administration as an organic whole for the benefit of teachers and others interested in educational progress. "In seeking for a unifying principle, the inevitable choice fell to our national ideals as expressed in democracy as we Americans have conceived it."

The treatment falls into three parts. The first deals with the evolution of national ideals and standards culminating in the free common schools. The second discusses society's part in the administration of education, with chapters on laws and units of control, types of schools, boards of education, maintenance, preparation of teachers, selection of teachers and physical equipment. The third takes up the administration of instruction with the usual topics of supervision, attendance, curricula, etc.

Throughout the attempt is to find the great principles back of our public educational ideals and practices. Thus he lays down these principles for testing the educational system, pp. 74-5:

1. Intelligence, skill and right conduct on the part of a people, subject to certain individual limitations, are fundamentally essential in a democracy.
2. It is the aim of society, through the public school as a special instrumentality, to insure in all the people the greatest degree of efficiency, physically, intellectually, morally and industrially, of which they are individually and collectively capable.
3. Schools, to be efficient, must be varied in type to the end that they may provide for individual differences in capacity and in stages of development, and also for the varied needs of society in the way of trained service.
4. The situation demands the most economic treatment of the problem of education, financially, in the matter of time, and also in health conditions, that is consistent with its most effective administration.
5. In order to insure the general effectiveness of such a system, society must, by legal compulsion if necessary, see to it that parents keep their children in school long enough to enable them, within the range of their capabilities, to get at least the minimum of knowledge, wisdom and skill necessary to the highest good of the individual and the well-being of the State.

In similar fashion he enumerates five essentials for progress in our educational work.

To write a book of this kind is extremely difficult. Pioneer work in any field is hard; it is peculiarly hard in educational administration at the present time. The thinking reader may sometimes feel that Professor Hollister has not gotten the biggest and most vital principles. More often the reader may feel that the facts have been largely selected to fit the principles without rigorous evolving of the principles from observed facts. But such things are to be expected at this stage in education.

Professor Hollister has gotten together a great body of valuable administrative material. The selections and references to authorities cover all essential fields, and are thoroughly up to date. Unlike many texts in administration, the book is interesting. As a ready reference book or text on school administration in a readable form for the average student, school man and layman, it should prove very helpful. CARTER ALEXANDER.

George Peabody College for Teachers.

WM. S. LEARNED. *The School System as an Educational Laboratory.* Bulletin I of the Harvard-Newton Bulletins. Cambridge: Harvard University Press, 1914. Pp. 50.

This bulletin outlines a plan for educational research in the Newton (Mass.) public school with the co-operation of the Division of Education at Harvard University. The director of the research, a regularly-appointed official of the Newton schools, was to retain his status as Research Fellow in the University. The duties of the Director were twofold: (1) "His first and most important business was to assist the teachers in the school system in their efforts at independent criticism and investigation of their own work and of educational procedure going on about them." (2) The second duty, subordinate to the first, to conduct independent studies of his own or such as were of interest mainly to the superintendent or the supervisory staff.

The following 12 problems outlined for investigation are extremely practical, and are problems that will be solved only with the classroom as a laboratory:

1. Differentiation in the treatment of pupils on the basis of capacity they show for independent work, history, geography, arithmetic.
2. The most advantageous disposition of a study period (subperiods at intervals, especially with intervening night, vs. unbroken period).
3. The most advantageous disposition of review in a given material.
4. Comparative tests of various methods for speed in teaching

special topics, *e. g.*, long division; English grammar, in high school.

5. How can a school assist in encouraging and refining the avocation of its pupils?

6. The development of a typical uniform character analysis based on the relations incident to school life. Hence also: The analysis of all phases of school life with a view to the opportunities they may afford for the display of definite characteristics in the pupil.

7. The development of a method for the scientific study of individual problem cases, whether of instructional, disciplinary or other nature.

8. The closer articulation of high schools and grammar schools (a) in general organization, (b) in English, (c) in science, (d) in history.

9. The analysis into fundamental abilities of aggregates now usually rated as units, *e. g.*, English, mathematics, etc.

Also the invention of tests and scales for the objective measurement of these abilities. Hillegas Scale. Eighth Grade Scale.

10. The division of labor in teaching: the organization of class work to permit the larger use of conspicuous abilities in the teacher.

11. Effect of regulation of periods on quantity and quality of work.

12. A psychological analysis of successful teachers.

At the time this bulletin went to press work was in progress on problems 1, 4, 6, 8, 9, 11, 12.

The results of the investigation of the problem of scales for the measurement of English composition are published in the second number of this series of bulletins, which has already been reviewed in this Journal.

Educators will welcome the later bulletins announcing the results of the investigations. The experiment will be watched with interest. The success of the experiment with conditions such as prevail in the Newton public school system will in no sense guarantee the success of a similar experiment in any public school system. On the other hand, a failure of the experiment at Newton would make the average superintendent extremely skeptical of the success of a similar experiment under less favorable conditions.

Superintendents who are contemplating work of this kind will find the discussion of the difficulties and the recommendations of the Director at Newton very helpful. W. S. Miller.

University of Illinois.

HENRY H. GODDARD. *School Training of Defective Children.* (School Efficiency Series, edited by P. H. Hanus.) Yonkers-on-Hudson, N. Y., 1914. Pp. xxii + 97. Mailing price, 90 cents.

The material in this valuable little book was originally prepared by Dr. Goddard as his report upon the "ungraded classes" of the New York City public school system. The fact that the problems there encountered are in the main common to any school system makes the rearrangement and amplification of the material in book form entirely justifiable. The text can be read with profit by every school superintendent, for it shows what ought not to be done and what cannot be done as well as what ought and can be done to insure some measure of success in the handling of this very difficult administrative and pedagogical problem.

Some of the main problems raised are: What constitutes mental defect? How are mentally defective children to be recognized and selected for special treatment? What types of mental defectives ought to be committed to State institutions, what types ought to be handled in special classes in the public schools? How many mental defectives are there in the average school population? How valuable are the Binet-Simon tests for detecting feeble-mindedness? Can school physicians, teachers or principals sort out pupils destined for special classes? How many children should be permitted in one special class? Should these children study the three R's? What sort of manual training should they receive? What equipment is needed for a special class? How are teachers for these classes to be recruited and trained? How can skillful supervision of special classes be secured? What is the outlook for developing self-supporting citizens by means of special class training? How can the "following-up" of the "graduates" of these classes be arranged?

It would lead us far beyond the scope of this review were we to attempt to give Goddard's answers to these and the numerous other related questions. The listing of these sample questions will, however, sufficiently indicate the scope and usefulness of the volume for those concerned in the administration and supervision of public school systems. It would perhaps be hypercritical to object to the poor literary style in which the discussion is cast, though the reviewer finds this somewhat irritating and occasionally tending to obscure the presentation of facts and opinions. G. M. WHIPPLE.

University of Illinois.

Educational Administration and Supervision

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Volume I MAY, 1915 Number 5

EDITORIALS

To Our Readers:

Educational Administration and Supervision acknowledges with appreciation the various welcomes it has received from educational journals in the field, especially greetings from the School Review, Elementary School Teacher, School and Society, The American School, The Journal of Educational Psychology and from various State, sectional and special journals.

We wish also to acknowledge the numerous letters from readers and to express gratification for the comments, critical and constructive, on the contributions themselves. We are happy to acknowledge also receipt of various literature pertinent definitely to certain articles which have already appeared in the first few numbers.

To publishing-houses we are grateful for the lavish and choice selections of books which continue to come to us for review. We hope we may be increasingly able to appraise these works justly and helpfully for our readers.

We wish finally to invite criticism. We wish chiefly to urge those who have thus far been content to address to us personal letters in connection with the educational principles raised by our contributors to compress these good points of theirs into 200 or 300-word pointed and pithy open discussions, so that those which seem to advance the argument or to turn it into more profitable channels or into clearer light may be printed, while the general interest is warm, in our next month's "Discussions" column for all our readers. Editors.

The Intermediate or Lower Secondary School

AS some of the discussions and news notes of this issue indicate, the interest in that perplexing transition period between elementary and secondary education is increasing. In our book note column several typical pamphlets are noticed. The journal is attempting to complete its partial list of school systems that are experimenting with various plans of rearranging grades, and to accumulate arguments and also more tangible evidences of the success or failure in a given case of these experiments. It therefore invites its readers, as a good many are already doing, to co-operate by forwarding the pertinent information and individual points of view concerning the various reorganization schemes, the time in operation, tangible, definite results, obstacles, cases of return to the old system or to some other arrangement, and other illuminating data of this sort.

Suggestions as to the name of this particular new unit in our school curriculum divisions would be welcome. "Junior School," "Intermediate School," "Lower High School," "Lower Secondary School," "Junior High School," or what?

One unfortunate aspect of this to us otherwise promising new organization of grade groups of education is the apparent necessity of devising a distinguishing system of quantitative units by which the colleges may describe for this grade of secondary schools their entrance requirements, thus extending downwards the "formalism" which Professor Judd so forcibly decries in his article in the *School Review* for December, 1914. One way out of this, as we see it, is to attempt, while our conceptions of this junior high school are in the fluid state, to characterize and distinguish its organization, administration and pedagogy with reference to the functional distinctness of its total curriculum outcome in such a way that a real standard shall be set before any influential educational organizations will recognize it or sanction its independent existence. C. H. J.

BOOKS RECEIVED TO MARCH 1, 1915.

(*More extended reviews of some of these books may be expected in later issues.*)

Benjamin R. Andrews. *Education for the Home.* U. S. Bureau of Education, Bulletin, 1914, No. 39. Part IV.

The first three "Parts" of this work have already appeared, dealing, respectively, with summaries of the investigation and of the equipment for instruction in household arts, State legislative provision and details of such education in the various grades of education, and of college and university work in this science. This latest bulletin completes the series by giving a comprehensive bibliography of the subject and listing the cities and towns now maintaining courses of this nature. It is a very valuable piece of work.

S. E. Bray. *School Organization.* Baltimore: Warwick & York. Second impression, 1915. Pp. 373. $1.00.

In the new edition of *School Organization* many chapters have been rewritten and the general plan has been considerably extended. New developments in educational policy and legislation have in the first place necessitated the change, but the opportunity has been taken at the same time to subject the work to still further revision.

The book assumes the main lines on which the elementary school in England has already been constituted by laws and regulations, and its chief object is to consider how the school so constituted can best be organized. In this connection "organization" is a wide term, and includes everything from the actual building of the school on the one hand to the actual giving of instruction on the other.

The idea throughout is not so much to lay down hard and fast lines according to which the organization of a school should be carried out, as to consider how the general working plans of the organizing teacher are to be modified by the varying circumstances, such as the character of the building, the number and size of the classrooms, the quality of the staff, the subjects of instruction, the age, sex and attainments of the scholars—there are special sections treating of the arrangements necessary for mentally or physically defective children.

Augusta F. Bronner. *A Comparative Study of the Intelligence of Delinquent Girls.* Teachers' College, Columbia University, Contributions to Education, No. 68. New York City. 1914. Pp. 95.

The purpose of this thesis is to ascertain to what extent delinquency in girls is dependent upon mental inferiority.

Objective mental tests were applied to four groups, composed of college students, evening class girls (including clerks, skilled factory workers, etc.), domestic servants and delinquents. While the delinquent girls fell much below the first group and considerably below the second, they were found to be approximately equal to the third group in intellectual capacity. While some of the delinquents rank very low, the fact that they, as a class, compare well with domestics of good character shows that general mental deficiency is not alone responsible for delinquency.

J. C. Brown. *Curricula in Mathematics.* U. S. Bureau of Education, Bulletin, 1914, No. 45.

This very valuable bulletin contains matter indispensable to the high school teacher who is trying to keep abreast of the rapid developments in mathematics.

W. W. Charters and Edith Miller. *A Course of Study in Grammar.* University of Missouri Bulletin, Education Series, No. 9, July, 1915. Pp. 45.

This interesting little bulletin presents classified lists of children's violations of grammar, cites what rules of grammar bear upon these violations of grammatical usage, what unnecessary items of grammar the Kansas City course in grammar includes, and finally what important items the course omits and should include. The large company of bewildered or bored and complacent teachers of grammar should read this pamphlet, and it would do no harm if makers of courses would, too.

Vocational Schools for Illinois. Published by the Commercial Club of Chicago. 1915. Pp. 66.

This is a presentation of the arguments of a dual system of vocational education, and contains a revised edition of the Cooley Bill. In addition, it describes Wisconsin's experience with the dual system, attempts to refute Dewey's arguments for the unit system, and presents a comparison of the Cooley Bill and the State Teachers' Association Bill, which latter is the bill soon to be proposed to the Legislature now in session by those who favor a single system of public schools with the incorporation of vocational elements.

Benjamin Dumville. *The Fundamentals of Psychology.* Baltimore: Warwick & York, 1912. Pp. 382. $1.40.

The object of this book is to provide a textbook of psychology suitable for the use of teachers, with reference to the actual work of the school.

Throughout the work the author has tried to avoid details which have little bearing on educational procedure and to give a clear sketch of the essential mental factors with which the teacher has to deal, and which he hopes to develop.

Albert A. Giesecke. *Municipal Civics.* Cornell Study Bulletins for Teachers, No. 5. Syracuse, N. Y. C. W. Bardeen, publisher, 1911. Pp. 114.

This book, designed as a text for students in the last two years of high school, discusses such interesting topics as The Relation of the

City to the State, The Part of the People in City Government, The Functions of City Government, etc.

The author justifies his work by pointing out the fact that the majority of high school students go out with a fair knowledge of the principles of National government, but with no knowledge of the government of their own city, in which they will probably spend their lives.

William H. Hand, High School Inspector. Bulletin of the University of South Carolina. Issued by the University, Columbia, S. C. Pp. 69.

This bulletin is the annual report of the High School Inspector of South Carolina. It contains some very valuable and forceful discussions, especially of such topics as the relation of the high school to the college and of the responsibility of the State to its high schools. Upon these vital problems the vigorous author has already had some good things to say, and we are glad to note that he is following up such vital themes.

Nathan A. Harvey. *The Feelings of Man.* Baltimore: Warwick & York, 1914. Pp. 276. $1.60.

This book attempts to bring to the interpretation of psychological phenomena the discoveries that have been made in physiology and neurology.

The standpoint from which the book is written is frankly mechanistic. The interpretation of feeling is based upon a physiological hypothesis which the author regards as holding the same relation to psychology that the hypothesis of molecules and atoms and electrons does to chemistry, or the representation of forces by lines does to physics.

Mathilde Edith Holtz. *Constructive English Grammar.* New York: The Century Company, 1914. Pp. 280.

The avowed aim of this grammar is to break away from the old Latin models which most English grammars heretofore have followed. The author aims, by use of the synthetic development of the sentence and simple and inductive methods throughout, to give a clear presentation of the essentials of English grammar, eliminating all classifications and technicalities which do not directly aid one in expressing thought in language.

Fred L. Keeler. *High Schools of Michigan.* Bulletin No. 12, 1914. Published by the State Department of Public Instruction, Lansing, Mich. Pp. 22.

This treatment represents an authoritative endorsement of the reorganization movement in secondary education for the State and outlines of courses as they may be readjusted to the new conditions. This State recommendation, together with the fact that the State

University of Michigan has anticipated the general movement with new formulations of its entrance requirements, places Michigan somewhat in the lead of most States in this respect.

CALVIN N. KENDALL. *The Junior High School.* Document No. 39, Council of Education of the State of New Jersey. MacCrellish & Quigley, printers, Trenton, N. J., 1914. Pp. 31.

This bulletin enumerates the reasons pro and con for the junior high school, lists an admirable selected bibliography, and then offers articles by school men on both sides of the question.

JOSEPH KENNEDY. *Rural Life and the Rural School.* New York: American Book Co., 1915. Pp. 189.

Mr. Kennedy was reared on a farm, was for a number of years a rural teacher, and still later was superintendent of rural schools; and he writes with an intimate knowledge and a complete sympathy with rural life and rural schools of a quarter of a century ago, and, to a less extent, with the rural schools of today.

In his comparison between city and country schools the author makes the latter appear at a very decided disadvantage, but he points out a number of ways, such as consolidation, increased teachers' salaries and lengthened school terms, in which the rural school may be expected to redeem itself. He concludes that the somewhat gloomy present situation, as he sees it, is the dark before the dawn.

The book gives a comprehensive and exceedingly simple treatment of rural life and some rural school problems, and is evidently intended primarily for the lay reader rather than for the teacher.

PAUL KLAPPER. *Teaching Children to Read.* New York: D. Appleton & Co., 1914. Pp. viii, 213.

To give the child an appreciation of good literature is here advanced as the purpose of teaching children to read. The author treats of the physiology, the psychology and the pedagogy of reading. He also discusses briefly modern methods of teaching reading, dealing separately with the work in the primary and in the intermediate grades. Throughout, however, he stresses the content and the inspirational side much more than particular methods or technique.

W. R. RUTHERFORD. *The Junior High School in a Small City.* Privately printed at McMinnville, Ore., by the author, 1915.

This pamphlet is particularly interesting in that it contains a discussion of the junior high school from the point of view that the form advocated is suitable for a small, compact city. The captions for discussion are the problem, the building, the general purposes, plan of organization, special advisor system necessary, curriculum adjustments, administering the new school activities and the effects of the plan already evident. Being the first junior school to be established in Oregon, it may have some historic interest also.

M. E. Sadler. *Modern Germany and the Modern World.* London: Macmillan & Co., 1914. Pp. 16.

The most adequate brief discussion of the topic we have seen from the point of view of one of the most respected and able of English educators. It is an attempt to appraise the educational features of German civilization and to distinguish the good and the bad elements.

H. P. Study. *Report of the Board of Education.* Neodesha, Kan., 1914-15.

A fine type of report of schools for a small city, containing matter calculated to catch the imagination of the school patrons and direct supporting educational opinion. It contains a description of a reorganized school system on the 6-3-3 plan, with an exceptionally clear account not only of the externals of such readjustment, but an educational discussion of the changes in the curriculum already effected and of further ones to be expected. Other questions of educational economy are treated in a fresh and clear manner.

James Welton. *Principles and Methods of Teaching.* Baltimore: Warwick & York, 1909. Pp. 677.

The treatment is theoretical—in the sense of setting forth a consistent and co-ordinated body of doctrine. No attempt has been made to set forth explicit directions how to carry out every small piece of teaching. The author insists that the true and effective way to train the practical teacher is to imbue him with broad and fruitful principles; and he becomes a real educative force just in the degree to which, having incorporated those principles in the texture of his own thought, he brings them to bear on the problems which every day in school sets him to solve in such numbers. The principles and methods here set forth are practical and expressed in the author's unusually pleasing and effective style.

J. Harold Williams. *A Study of One Hundred and Fifty Delinquent Boys.* Bulletin No. 1 of the Research Laboratory of the Buckel Foundation, Department of Education, Stanford University, California, 1915. Pp. 15.

This represents a serious study of the Whittier State School of California, with reference to the administrative needs of the school, the physical conditions of the inmates, the needs of educational reorganization, and an expert determination of the intelligence level of each of the boys.

It is a good beginning work of the Foundation, as we should expect from the education department of Stanford.

VOLUME I JUNE, 1915 NUMBER 6

EDUCATIONAL ADMINISTRATION AND SUPERVISION

The Protection Of Professional Interests

By Charles H. Judd
University of Chicago

THE problem of defining the duties and rights of the superintendent of schools has become acute in a number of cities. The board of education very often has no rules to which the superintendent may appeal and there is little or no legal definition of his functions. The result is that personal influence is the strongest instrument which the superintendent has at his disposal. This might be enough to guarantee good administration if it were not that boards of education are often transient and uncertain in their organization. Influence which the superintendent possesses today is lost tomorrow as a result of the reorganization of the board.

Furthermore, where matters are conducted on the purely personal basis, there is likely to be an exercise of personal influence on the part of board members. The result is that it is possible to find chairmen of committees on teachers whose consent must be secured before changes can be made in school programs that seem to school executives to be of obvious importance. One finds sometimes that an unprincipled seeker of influence has secured a place on the board of education because he wants to supervise the purchase of janitorial supplies. We have seen this man prevent action on a new course of study until an order for mops was properly placed. Everyone has seen examples of the futile efforts of conscientious school men to put that most important function of the school executive, namely the selection of teachers, on a basis which shall eliminate petty politics.

It is well enough for us to express the pious hope that sometime in the future the obstacles to a high professional control of the schools will be removed by the growth of intelligence. The fact is that this desired result will not come without the expenditure of effort on the part of those who have the interests of schools at heart. If the teaching profession is to organize schools, it must unite and give its combined energy to a professional program.

The case is still more complicated when it is realized how difficult it is for even the school men to be strictly professional. We go to our teachers' meetings and sometimes we discuss the professional side of our work, but our most eager attention and our applause go to the speaker who indulges in some broad comment on our obvious personal deserts of larger salary. If there are board members who seek unprofessional appointments, there must be members of the teaching body who have accepted such appointments. If there are domineering committeemen, there must be dominated appointees.

It is not my purpose, however, to describe what we have all seen. It is rather the purpose of this paper first to seek an explanation of the present situation and second to propose a line of action which will make for improvement.

The explanation of many of the difficulties is that school officers are relatively isolated. The school system of a particular city is part of a national system. The movements which enlarge the course of study, which raise the standards for teachers, which bring the children into schools and keep them there, are broad, general movements. The forces which oppose these great movements are local and as persistent as they are petty. The citizen who wants schools conducted as they were conducted when he was a boy knows nothing of the expansion of our school program. The superintendent of schools must be able to introduce this conservative citizen to a nation-wide movement.

Another example of the same type is seen in the fact that the demand for a particular appointment of some teacher is an intense personal issue, while the broad demand for high standards is a national demand and often very abstract to the parties in a controversy. School officers have difficulty in making broad, national movements effective in the face of personal, local opposition.

My first point, then, is that the superintendent has difficulty in setting up professional standards because he must represent broad, general, professional interests.

My second point is like the first. There is in this country today no organization which adequately helps school officers in enforcing professional principles. We meet here and get new ideas from year to year and we scatter to our respective fields of operation after the meeting with a new realization of our splendid isolations. We tell our boards of this and that and by the month of April it is as though we had not spoken. This organization ought to devise some means of sending its influence back with its members in such tangible, visible form that each community, when it comes in contact with the superintendent, will realize that he is part of a large professional group working for definite ends.

For example, we all favor better training for teachers. We ought to be able to start an irresistible movement to secure recognition of the principle that training is necessary. Let us print a chart showing what cities of various classes do in this matter. When a superintendent goes before his board of education, let him have in his hand the chart authorized by our professional body showing that board how it ranks in the movement toward the better training of teachers.

Again, we all believe in the development of the course of study. We want arithmetic improved. We read with eagerness the studies made in this field by our intellectual leaders and we go with the reprint in our hands and say to our boards of education, "Let us change arithmetic." They send us away, answering that they do not see much in these studies made by some remote professor in a college of education. Would it not be more effective if a chart approved by a professional organization carried to that unconverted board of education the findings of our student of education? There are among us today able workers putting out reports which are new and full of meaning, but we are so scattered, so isolated, that we do not get the real strength of these men back of our daily push.

Or take another type of example. I hear from some traveler or I read in the paper that Superintendent So-and-So is about to be surveyed. I surmise that the civic league of his city or some other organization wants something and has heard of this new device for stirring up reform. I know that this civic league can easily collect enough money to reveal all the defects in that school system. I know that every school has glaring defects. I know that if the discontented citizens pick their agents carefully, nothing but a revelation of defects need be expected.

I wonder how long it will be before school administrators discover that they ought to have legitimate and well organized machinery for bringing into every school system professional advisers in a professional way. The doctors do it; the engineers do it. All other professions do it. There can be no doubt that we should gain enormously in our educational work if well qualified school men examined in a co-operative way the problems of each school community.

The school survey is a natural expression of the demand that schools be professionalized. I hear school men criticizing the school survey as now conducted and making absolutely no move to improve matters. The movement is on; it needs organizing. I have seen school men trying, on the other hand, to do the wise thing and take advantage of the movement. Again these men need organized help, for too often they are misled into employing some of those blatant and unprofessional agencies which always arise at such times to fatten on the unprotected who are conscientiously trying to be progressive, but do not know how.

I cannot cease wondering how sane and rational school men let these great movements and these strong forces develop without organizing methods of directing them aright.

Note that I am not advocating that these movements be controlled in the sense that they be made to serve personal ends. I have not referred to the personal side of all these cases. The tragedy of a career wrecked by political complications appeals to all of us as a pathetic human phenomenon. But we could bear this with equanimity if it helped the general cause. The real tragedy here is that the schools suffer.

I would that I might carry the distinction between selfish, personal interests and broad, wholesome professional interests as far as my words can reach. I heard an advocate of a certain type of teachers' organization not long ago berating the merit system of promotion. The peroration of that address was the impressive remark that where our flag goes civilization follows, where teachers' organizations of this type go salaries increase automatically and the merit system is abolished. If my remarks up to this point have given a grain of comfort to the organizers of such devices for suppressing the merit system of promotion, let them be forgotten. I advocate the merit system because it sets up a professional standard. I advocate a professional standard in education because I see the necessity for a broad co-operative movement among those who would improve our schools. I advocate professional organizations because I see unworthy, selfish agencies rendering ineffective the work of earnest school officers who labor against conservatism and political influence and personal prejudices.

Let us realize that if we do not organize more compactly for professional ends we shall never gain the advantages which come from united action. If we act as individuals, we are like the single fagots of the fable, easily broken by the naked hand. If we will bind ourselves together, we shall be strong.

These proposals for a professional organization must be made concrete. I have no hesitation in being particular and specific. No one who has kept in contact with this meeting of superintendents can fail to realize that by a process of natural selection it has come to be the most significant educational organization in the country. Why not perfect this organization? First, give it independence.

Once free to organize with the largest professional interests in view, let us begin by making productivity the motto of all our efforts. Let us organize a permanent committee which shall act as a central clearing-house for professional problems. Let this central committee have at its service district commissions. One such district committee should cover the North Atlantic States, another the South Atlantic States and so on throughout ten or twelve districts. In addition there should be special commissions dealing with special problems. All these commissions should prepare material for the general annual meeting, which should be perfected in its representative character.

Of course, this program calls for work, but I believe the energy is at hand. There are many investigators who are willing to do what the profession wants them to do. Indeed, there is an enormous amount of productive work now under way; what is needed is deliberate consideration and judicious use of this work. The best and most experienced men in our midst ought to give of their time and energy to advise and organize.

Where are the funds to come from for this work? Fortunately the answer is optimistic, because the expense of doing most of the detailed work is pretty largely provided through existing agencies. What is required is that the professional agencies should be put in contact with each other. I do not know how much the individual members of this meeting would be willing to pay toward a central organization of this type I have been discussing, but I think they could be persuaded on mature consideration to regard the investment as a kind of professional insurance. Some money and much energy would have to be invested in the enterprise, but I am confident that something would come back to each investor.

I shall not tax your patience, however, with details. I wish to add one more argument in favor of this project. No profession can be organized from without. It is characteristic of a profession that its highest attributes arise from within. We can have a professional organization only when like-minded men and women come voluntarily together. It is an impeachment of American educators that they have not perfected the strongest professional organization in the world. Our schools are better equipped than those of any other nation; we have resources and freedom not paralleled under the sun; yet the requirements for admission to our profession are lower than those of any other great civilized nation and our organizations of teachers are so weak as to be ridiculous. England, with something like two hundred thousand teachers contrasted with our six hundred thousand, has a membership in its national teachers' organization of over eighty thousand. I am not comparing numbers for the sake of exciting rivalry, but when I think of our American teaching profession scattered, and our administrators working alone, I ask myself how long it will be before we realize that a profession must be self-made, and that the making of a profession means organized effort, and that organized effort is needed every day for the protection of great professional interests. The teachers of Germany carry on all sorts of professional work. Their organizations make reading books for children and support psychological laboratories in which educational researches are conducted. Our teachers have more opportunities for participation in all kinds of scientific work than even these German teachers, but it is not our teaching profession which organizes these opportunities. My plea is for a professional control of all these agencies and movements. If we could bring together under the guidance of our leaders that which we have, if we could make our belief vivid and statements clear, our individual problems would become less trying and our professional influence enormously greater.

The Gary System—Its Pros and Cons For Other Cities

David Snedden

Massachusetts Commissioner of Education

I.

IN its principal features, the so-called ''Gary System'' of organizing and administering public schools is already familiar to educators. Bulletin No. 18, for 1914, of the Bureau of Education (prepared by Dr. Burris, and including some material gathered by Dr. Updegraff) gives a good general description of the system as a whole. In their order of interest to the layman, the following are the unique features of the Gary System:

1. It permits of such use of school buildings that substantially twice as many children as is usually the case can be accommodated in the ordinary type of school building, which has, in addition to classrooms, assembly hall, workrooms and gymnasium.
2. All of the teaching is in greater or less degree on a departmental basis. Teachers can specialize their instruction along the lines of their greatest aptitudes, although in some cases they do not specialize along the lines of specific subjects, but rather of groups of subjects requiring similar treatment.
3. The buildings, equipment and activities of the entire school system are used as laboratory and workshop for the practical activities, including the so-called ''industrial training,'' of the pupils, from the lower grades through the high school.
4. The so-called ''practical'' or ''industrial'' activities of the pupils in the grades and in the high school are of so thoroughly definite and utilitarian a character as to insure valuable educational results in a field where heretofore the lay-

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*An address delivered in Cincinnati before the National Education Association, Department of Superintendence, February 25, 1915.

man has suspected that a considerable portion of the instruction offered has been of a dilettant, unsubstantial and impractical character.

5. Educational agencies other than the school are drawn into active co-operation with the school to some extent, under its inspiration and supervision, these including the public library, the church school for religious education, industrial establishments, and various forms of voluntary activity such as the Y. M. C. A. work, Boy Scout work, and the like.

6. The amount of attention given to instruction in science, more particularly its practical applications, is such as to insure valuable results in this field—a thing which is rarely achieved in other school systems.

7. There is a substantial lengthening of the customary school day.

8. A considerable part of each day is given to supervised play and other forms of physical activity, directed by the schools.

9. School buildings are used to a substantial extent by others than pupils, through evening schools, the use of gymnasium and plunges for adults, Saturday classes, summer schools, etc.

II.

There can be no doubt that the general plan underlying the so-called ''Gary System'' does contemplate all the modifications and extensions of the traditional school system suggested above, nearly all of which appeal to the public as being educationally useful and highly desirable. The writer does not purpose to analyze in detail the extent to which these aims are actually realized in practice, nor the character of the training and instruction resulting. A very exhaustive study would be necessary, at this early stage in the history of the Gary System, to evaluate these results in any conclusive fashion. Such a study should, and must eventually be made, but it would take much time, special service, and the use of careful statistical methods to produce satisfactory results.

The important thing for us to realize, however, is that back of the Gary System there is, in the first place, a comprehensive theory of what the public school should do, and in the second place, an extensive and detailed working out of at least tentative ways and means by which this theory shall be realized in practice. A visitor to the Gary schools is impressed with the large number of administrative and pedagogical devices which the superintendent and his co-workers have already invented, adapted or borrowed and put into practice with a view to extending the scope of the work of public schools, and to making them serve more effectively the needs of all educable persons in the community, young or old.

But in two visits to the Gary schools and in contact with Superintendent Wirt, with whose name the so-called system is most frequently identified, I have been unable to discover that the workers in the Gary System are irrevocably committed to any particular hobby or theory of administration. The general scheme is characterized by flexibility. Superintendent Wirt and his associates are constantly experimenting with new devices, and seem to be seeking to ascertain and value the different ends to be kept in view and results obtained under the operation of any tentative plan.

III.

To the educator the significant features of the Gary System in their order are these:

1. The system of education in its underlying theory, in its plans, and certainly, to a large extent, in its practice, more adequately meets the educational needs of city children than any other system of which the writer has knowledge.

It is everywhere recognized that children should in the public schools be taught the so-called ''academic subjects.'' But in addition they should be given a large amount of opportunity for the acquisition of practical knowledge of science through as direct contact with nature as possible. They should be given opportunity to practice, on the basis of standards suited to their youth and permanent interests, various forms of industrial or other practical activities, with a view to exercising their instincts for constructive work, to ''finding themselves'' vocationally, and to their gaining experience in the world of material activities. They are all entitled to abundant opportunity to play, under conditions which will make for wholesome moral development and insure the maximum of useful physical activity and growth. Finally, the voluntary or quasi-voluntary activities of young people should be encouraged, and this under some form of supervision by the school, to the end that good rather than bad results may follow and that the home, church, playground, club, and library shall be brought into co-operation. Many of us recognize all these as desirable objects, but nowhere before outside of boarding schools, so far as I know, have administrative agencies on a comprehensive scale been organized to provide the necessary means.

2. Under the Gary System, instruction in science in all grades becomes very much more real and effective than has been possible in schools giving only a few minutes a day to so-called ''nature study'' or elementary science.

3. Through the extension of its manual training system and the development of a wide range of industrial and other practical activities in connection with the buildings, equipment and activities of the school system as a whole, the Gary schools have placed so-called ''practical'' or ''pre-vocational'' instruction on a basis much more satisfactory than anything heretofore existing outside of individual schools.

4. Because of the large amount of time available for play under supervision, the scope, thoroughness and efficiency of the physical education of the school children have been materially increased over those conditions as usually found.

5. The Gary System makes for the maximum use of school plant, or, as it might otherwise be expressed, it achieves a given educational result with a minimum of educational equipment.

6. It provides a relatively large incentive and opportunity for extension activities, both for young people and for adults.

7. The system of departmental teaching, including the more recently developed feature of the use of the auditorium, permits of the development of definite types of pedagogical approach which are of the utmost importance for sound education, but which have hitherto received scant recognition.

This is important because there is involved the possibility of a distinction which is only now beginning to be made in conscious educational practice between that training and instruction, on the one hand, which should be of a definitely systematic character, such as reading, spelling and arithmetic in the lower grades, and mathematics, foreign language and English in the upper grades; and, on the other, those other forms of learning with reference to which no such definite and precise approach is necessary, such as the results of the right kind of nature study in the lower grades, story-telling and general reading in all grades, lectures on various interesting topics in the upper grades and high school, practical arts in all grades, the use of moving pictures, the development of voluntary activities, play, etc.

The writer is of the opinion that it is exceedingly difficult for any one teacher so to shift her point of view that she can at one time give the children definite drill towards specific powers, and at another put herself in an attitude favorable to giving the children opportunity fully to exercise their own powers of appreciation and reception.

Under the Gary System, where one teacher confines herself to a specific academic or class-room work, the achievement of definite habits and organized knowledge in these subjects becomes possible, while on the other hand the carrying on of other forms of activities in auditorium, science laboratory, or gymnasium permits of a quite different educational atmosphere and methods of approach. It is certain, as the writer sees it, that during the next decade the most important development towards educational efficiency in training and instruction will be a progressively sharp series of distinctions between that kind of instruction which should terminate in definitely recognizable powers, and the other kind of instruction or activity which should result in appreciations but not in definite, tangible and measurable powers.

From the writer's point of view, the Gary System opens the way for an indefinite series of experimental developments in this direction. It will be the aim, necessarily, of the academic teacher to make her arithmetic, spelling, penmanship, English, foreign language, etc., as definitely fruitful as possible, in terms of specific powers sought in these studies. On the other hand, it will be the aim of those in charge of auditorium instruction, playground activities, and industrial activities respectively, to achieve in each of these departments the particular kind of results that seem best to interest the children and give the maximum of the kind of attainment desired under existing aims and conditions.

In other words, each major division of the work of the Gary System will develop its own types of aims, and these will differ in marked degree from those of other major divisions. The teachers in each of these divisions will develop characteristic mental attitudes and will tend to assert more clearly the special demands required of their various departments. Because the Gary System opens, from the writer's point of view, an indefinite range of opportunities for developments of this character, he regards it as being of the utmost importance.

IV.

Under what conditions and to what extent can other cities adopt or adapt the aims, forms of administrative organization, and methods of the Gary System? To many of us this is an important question, because the public has become interested in the reports coming from Gary, and if we do not lead, we are in danger of being pushed, into some form of movement for readjustments of our schools suggested by that city.

It is unnecessary to observe that there can be no successful modifications or developments of local school systems along lines that seem to give good results at Gary if, on the one hand, an attempt is made badly to copy or imitate that system, or if, on the other, the work is undertaken by local authorities who do not comprehend and sympathize with the general scheme of educational aims and purposes which, from the start, seems to have guided Superintendent Wirt and his coworkers. Better leave a local system alone than to attempt to make it over in the exact image of Gary or to attempt extensive readjustments without the guidance of a broad and modern philosophy of education.

But to school authorities who have a fairly clear notion as to what they want, I do not see why the schools of Gary should not prove profoundly suggestive, provided such authorities are convinced that the educational mission of the public school is as far-reaching as has been asserted by almost all our educational thinkers and leaders during recent years. If we are really in earnest in our oft-reiterated contention that the modern school should aim to insure the education of the *whole child;* if we believe that the school should provide not merely the means for drill in the academic branches, but should make possible intellectual nurture and growth as these result from abundant free play, from a wide range of interesting practical activities, and from ample opportunity to gain in comprehension of scientific knowledge as this is to be acquired from contact with nature and with man's works; if we are convinced that every school should definitely co-ordinate its educational efforts with those of the home, the church, the shop, the press, the stage, the library, the police, the club, and the playground; and if, finally, we hold that the city should make its expensive school plant render the fullest possible service to the community—then we can certainly study Gary to advantage. We can derive from it a hundred suggestions as to readjustments and extensions that may to advantage be made locally.

V.

Let us consider separately some of the possible adaptations.

1. The lengthening of the school day, the use of a given classroom or other working space by two or more independent groups of pupils, and the departmentalizing of teaching—these three features are, as I see it, mutually interdependent. To have one almost inevitably involves having the others. We need half of each longer school day—at least six, and preferably seven working hours—for academic studies, and the remaining half, outside of academic classrooms, for miscellaneous activities—play, physical training, practical work, science, and auditorium. We need departmentalized teaching at least to the extent that will insure to each group of children different teachers for the academic studies, the practical arts, and the physical education.

But I see no good reason why the changes necessary to carry out this program should not be effected in almost any large school. True, if there is no gymnasium, no assembly hall, and no playground, the difficulties will be great—almost a matter of making bricks without straw. But I am persuaded that, given departmental teachers with some special training and the beginnings of enthusiasm for their special work, these teachers will be able to do much to make their work fruitful in ordinary schoolrooms, and in nooks, corners, and hallways—always provided they have caught the idea that their extra-academic teaching is to develop an approach and spirit of its own and unlike that of the academic atmosphere.

But I do not see why the new plan should be tried in all the schools of a city at once. It should be inaugurated in a building most suited to the new plan, and under teachers specially selected to give it a fair trial. Certainly no wise superintendent will expect that new machinery of the kind required to make the Gary plan a success will run itself, or will work even passably under unsympathetic direction.

Specific difficulties will be encountered. School children accustomed to shorter sessions will object, and so will the parents of some of them. Many teachers are opposed to a school day more than five hours long. But all of these are obstacles which the business-like superintendent is accustomed to meet and overcome, if he knows what he wants. The discontinuance of home study will win favor among pupils; the supervised play among many parents; and the administration should always be flexible enough to accommodate itself to what are clearly the legitimate demands from parents for time for music lessons, dancing, etc. Teachers can readily be induced to see in the new system a means of making education more effective, and they will then render the desired co-operation.

2. Can we develop a program and opportunities for practical activities similar to those of Gary? In many cities, certainly not at first. We have turned over all of this municipal housekeeping to special agencies, and it will be hard to win it back. We are in the position of that household where all cooking and sewing and nursing and cleansing have been delegated to servants who hold the children at arm's length, and give them no chance to share in any of the work which is their rightful heritage. Superintendent Wirt is entirely right in his position that every bit of the practical work involved in carrying on the plant and operations of the school should be made the charge and educational opportunity of the learners in the

school system as far as that can be done, under proper direction and with due economy. Is the school—the agency assuming final responsibility on the part of the State for the education of the young—to follow the home and the workshop in shutting the door to practical endeavor and practical achievement in the faces of its children? Will it give its printing, its accounting, its plumbing, and its electrical work to outside service, and restrict its willing and promising youth to work on manual training knick-knacks?

But we shall not achieve Gary's results in this department until we shall have evolved workable programs of our own, and agitated them persistently before the public. The wise superintendent will be content with small beginnings and will insure competent direction by skilled workmen from the start.

3. The fullest development of playground, gymnasium, and swimming activities is, in large degree, a matter of equipment. Many educators see clearly the way forward here, if needed facilities are provided.

4. Evening schools, Saturday classes, and summer or vacation classes—these are not unique except as to their general integration into the Gary System. They can readily be developed elsewhere.

5. The co-ordination of the school with other educational activities, which is a unique thing in Gary only as to its scope and the variety of devices employed, should be begun and extended everywhere. Whether the Bible instruction under the charge of the churches will succeed is not yet clear, but the experiment is of great significance. In theory we are all committed to closer co-operation with the home, the public library, the local newspaper, the moving picture show, the police, and the voluntary clubs which young people should and will form. Superintendent Wirt has been a little less fearful, and has, we like to flatter ourselves, been a little more favored by local conditions than the rest of us—that is all.

6. But I wonder if all of us school men can adapt the essential features of the Gary theory, and yet preserve a large degree of flexibility in its operation? We do so easily become victims of the machinery and routine which we set up. We feel that we must *compel* everybody, make everything *obligatory,* in order to succeed. We think chaos would result if we per-

mitted some pupils to go home or come to school an hour earlier than others. If we establish manual training, all or none must take it. We complain of parents who want their children to take outside music or dancing or language lessons—perhaps of more importance than the work we are offering. At present we do not co-operate with newspaper, moving picture and children's club, except sporadically—we compete with them, and the child is often the first victim of our competition.

If we can assure flexibility and adaptation of means to the pupil as the center of our efforts, let us borrow many of the Gary devices—but if they must become part of a rigid system decreed by a spirit of autocracy and mechanical routine or regimentation, let us leave them where they are.

7. Can we carry over the Gary idea that it is educationally worth while for groups of younger children and of older children to visit each other's work and to co-operate at times? Perhaps not until we shall develop teachers who can see in learning a great deal more than the reciting of assigned lessons and drill on daily tasks. A high rather than a low order of teaching talent will be required to conduct this visiting and to make the "auditorium" period a success—a higher order, perhaps, than Superintendent Wirt yet realizes. Any duffer of a teacher can assign and hear lessons; it requires almost an artist to stand aside when children are learning by themselves.

VI.

I have said much about the "Pros" of the Gary System—so much that perhaps you think I can find no "Contras." I find it indeed difficult to criticise adversely, for the scheme is still in early stages of operation, and in the main I find little to dissent from, as to its intent and general plan. It is too early yet to test the plan by its results.

There are, however, two phases of the Gary work which I think need critical examination—to one of which I think Superintendent Wirt is committed, and as to the other of which, I think, he has very clear vision, the public only being in a degree misled by current reports. I refer, in the first place, to Superintendent Wirt's conviction that as far as practicable all grades—kindergarten, elementary and high school—should be represented in each large school; and, in the second, to a somewhat widespread belief that the Gary plan includes proposed solutions of the problems of vocational education.

VII.

If it should prove to be possible to utilize on an extensive scale the co-operation of groups of young and of older learners in the totality of the learning process as that obtains in schools, it might prove expedient to make sacrifices in other directions in order to bring together in single buildings two thousand or more children of all grades. To me this is a matter yet to be demonstrated, even in Gary. It is clear that if the varied industrial and other practical activities so largely characteristic of the Gary scheme are to be fully organized in schools for older pupils, these schools must be very large—too large, it seems to me, to render them easily accessible to children living in urban communities as ordinarily constituted. I still believe that the urban school organization of the future—one in which the best features of the Gary System will be extensively reproduced—will involve just two types of schools of general education: (a) local, small schools for all children under twelve years of age, staffed and supervised entirely by women; and (b) central schools, very large, and with very flexible programs, for all children over twelve, regardless of grades. Vocational schools we shall have in addition, but these will be located close to the seats of the industry, commerce, homemaking, and agriculture for which they will give preparation—often, indeed, in the buildings, or on the grounds, devoted to these occupations.

My recommendation, then, is that we strive to realize the best results of the Gary System in the two types of schools, and so make possible easy access to school and playground on the part of children under twelve, while young persons from twelve to eighteen will be expected to walk or ride considerable distances to large central schools abundantly equipped with shops, grounds, and other facilities for broad and vital education.

VIII.

In some quarters it is being said that the Gary plan has solved the problem of vocational education. If I understand Superintendent Wirt, Gary has not attacked the problem of vocational education, except as regards trade extension education in evening schools, because it is held that vocational education belongs in the industry itself, the public school co-oper ating where it can. The varied practical activities carried on in the schools, and in connection with which many thousands of dollars' worth of work of a thoroughly productive character is done, especially in the building trades, printing, furniture-making, food preparation, stenography, and bookkeeping, are not regarded as supplying the need for vocational education except for the small number of learners who are enabled to specialize as apprentices to the carpenters, plumbers, printers, machinists, painters, electricians, engineers, housekeepers, stenographers, and bookkeepers employed as regular teachers of the practical activities in the schools themselves. I think Superintendent Wirt believes that the field of the separate day vocational school is a limited one—perhaps being available for only a few occupations and perhaps to a partial degree of vocational training only, in these. But he would have the school co-operate with industry, first by giving the pupil extensive opportunity for generous practical training in industrial arts (or homemaking, or commercial work, or agriculture) before entering industry, and thereafter, through the provision of abundant opportunities for trade extension teaching in evening classes, of the "short unit" type. The Gary scheme, therefore, includes no provision for complete vocational training (outside of stenography) except as regards the few persons who can in effect "apprentice" themselves to the trade workers among the teachers.

My own point of view is somewhat different from Superintendent Wirt's, if I understand him aright. Perhaps conditions in Gary are peculiar; but I believe we shall find that there is, in every city, place for a variety of separate vocational schools which shall, for an introductory period, claim the full time of the learner, after which these vocational day schools will arrange for a part-time service of their pupils in commercial shops under the supervision of the school itself, the whole period for this arrangement to extend from fourteen to eighteen or nineteen years of age. After this the learner, on his own responsibility, can, if he desires, continue in the trade extension evening school.

These separate vocational schools will, I believe, be located as close as possible to the industries with which they are ultimately to connect, and will at every stage make, as the basis of their education, practical productive work, either in school shop or commercial shop. They will follow industry as to working hours, working weeks, and working year. Learners will be paid at least in part for the productive work which they do.

As I see it, the Gary plan provides excellent foundations in practical experience—of the kind now popularly miscalled ''pre-vocational'' education (''a rose by any other name really would not always smell as sweet''). The Gary plan can readily be made to include vocational education, however, and if adapted in other progressive cities having different conditions would probably do so.*

Let us give credit to Gary and its school authorities for having conducted such an intelligent, comprehensive, and sustained an experiment in education—and let us, on behalf of American school children, profit from the results of that experiment to the fullest practicable extent.

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*Superintendent Wirt is of the opinion that the Gary System offers greater opportunity for vocational education than is here indicated. He says in a letter:

"I have only one suggestion to offer. * * * You say 'except for the *small* number of learners who are able to specialize as apprentices,' and also 'the Gary scheme, therefore, includes no provision for complete vocational training (outside of stenography) except as regards the *few* persons who can in effect apprentice themselves to the trade workers among the teachers.'

"I am inclosing a report for the past year on the shop work for boys. Eliminating the 45,000 manual-training hours, there was an average of 600 hours' definite trade teaching given each day for an average of 190 days. The total average daily attendance during the year of boys fourteen years of age and over was only 220. Also the school shops can accommodate twice the number of boys that are now using them. Since the average trade-teaching hours per day was nearly three hours for each boy fourteen years of age and over attending the school, I believe that you have placed undue emphasis upon the use of the words 'small' and 'few' in the above quotations. It is true that some of this instruction was given to students in co-operative courses. Much of the instruction was given to boys under fourteen. Every boy over fourteen and every adult in the city, however, was given the opportunity. There are more adults attending evening classes than there are children in the day classes. There are many adults in day-school shop classes. Many more could be accommodated with present shops and teachers if we could secure the students. The students who go into industry as apprentices and journeymen are much greater in number than the students who go as stenographers.

"I believe that, when any city is giving an average of two hours per day definite trade teaching in school shops to a number of adults and school boys equal to the total attendance of boys fourteen years of age and over in the day school, it is meeting fairly well the vocational training needs of the community."

Regents Examinations in the Secondary Schools of the State of New York as a Basis for the Rating and Promotion of Teachers

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I HAVE been asked to give a brief account of the way in which the New York system of Regents examinations may serve as a basis for the rating and promotion of teachers in the secondary schools of the State. To that end reference to the source of New York's centralized educational system is necessary.

All of the educational agencies of the State center in The University of the State of New York, which, through unification of educational laws, has in recent years become in law and in practice The State Department of Education. The University of the State of New York, which dates originally from 1787, is a constitutional body and is governed by a Board of twelve Regents elected by the legislature, one each year, for a term of twelve years. The Board of Regents under its large powers acts practically as an educational legislative body for the State, and elects to serve during its pleasure as its executive officer a President of the University and Commissioner of Education. Under the direction of this executive officer the administrative work of the University is carried on in the Departments of Elementary Education, Secondary Education, Higher Education, The State Library and The State Museum, and in the Divisions of Administration, Attendance, Educational Extension, Examinations, History, Inspections, Law, Library School, Public Records, School Libraries, Statistics, Visual Instruction and Vocational Schools.

Exercising its plenary power, the Board of Regents created in 1907 The State Examinations Board. This board consists of twenty persons, the President of the University, who is its chairman; the three Assistant Commissioners of Education, representing the three University Departments of Elementary Education, Secondary Education and Higher Education, and the Chief of the Examinations Division, as ex-officio members; and fifteen other members appointed for five-year periods by the Board of Regents, five of whom represent the colleges and universities of the State, five the high schools and academies and five the elementary schools through the city superintendents. Only such persons as are actively engaged in teaching or in educational supervision may be appointed to the board.

The functions of the State Examinations Board as determined by Regents Rules

> ''shall be to appoint, with the approval of the President of the University, committees to prepare question papers for State examinations and to advise with the President in respect to the form and content of syllabuses covering the subjects of study in the elementary and secondary schools.''

The State Examinations Board meets annually in the month of December to appoint committees to prepare question papers and confines its discussions to the form and content of the courses of study in the elementary and secondary schools. Practice has happily determined that fundamental changes in the courses of study in the schools of the State shall originate in this deliberative body. The responsibility resting upon the Examinations Board in the selection of committees to prepare question papers may be clearer when it is understood that Regents examinations covering the work in the elementary and secondary schools are given in practically all of the schools of the State. For present purposes, reference will be made only to the examinations in academic subjects. In June last examinations were offered in upwards of eighty topics covering groups of subjects as follows: language and literature, mathematics, science, history and social science, commercial subjects, drawing and music. These examinations cover practically all of the subjects offered in the secondary schools of the State. They occur in each year of the standard schools of the State and occur in each year of the standard four-year high school course and are given in January and June of each year. In January and June, 1914, 425,986 answer papers were written in the academic examinations. This means that practically all of the pupils in the secondary schools take the examinations.

The Regents Rules provide that each committee appointed by the Examinations Board to prepare question papers shall consist of three persons. One member of each committee shall be an officer of the University, one member a college teacher and one a secondary school teacher. By way of illustration, it may be noted that for the last year, the committee appointed to prepare question papers in German II, III and IV consisted of the University specialist in modern languages, the head of the modern language department of the Masten Park High School of Buffalo and an assistant professor of German in Cornell University. Committees similarly constituted prepare question papers in all other subjects. The State Examinations Board appoints a committee on final revision, which acts finally upon all papers submitted by the several committees. This committee on final revision sits ordinarily for two days after galley proofs have been made of the question papers by the Examinations Division. The committee on final revision consists at present of the Superintendent of Schools of New York City, the President of the University of Rochester, the Superintendent of Schools of Ithaca, the Principal of St. Mary's Academy of Little Falls, the three Assistant Commissioners of Education and the Chief of the Examinations Division.

No questions are asked which do not fall reasonably within the scope of the announced courses of study and the questions are studied carefully by the committees who prepare them originally and by the committee on final revision so as to elicit evidence of knowledge and of capacity on the part of the pupils rather than simply to find out what they do not know and to convict them of ignorance. Pupils are admitted to the examinations who have satisfactorily completed the time requirement in each subject as specified in the course of study. The subject of elementary algebra, for instance, must be pursued for a full school year, five periods a week, before the pupil becomes eligible to take the Regents examination. The passing mark, with a few exceptions, is 60%. The papers are rated at the schools by the teachers under the supervision of the principals and are then all reconsidered by the Examinations Division of the University at Albany. In order that large numbers of papers that fall below the required passing mark may not be sent to Albany, the Examinations Division issues from time to time suggestions to teachers and principals upon the rating of papers with a view to establishing a uniform procedure in the rating of papers between the schools and the central office. It is possible by this means to make very certain the basis upon which papers in certain groups of subjects will be rated. It is possible, for instance, in bookkeeping, or shorthand, or typewriting, to give such directions as will make it possible for teachers to rate the papers with almost absolute accuracy. This is true also, in certain examinations in mathematics and in foreign languages. It is a little more difficult to establish definite methods of procedure in the rating of papers in English and in history, but effort is made to acquaint all teachers with the University procedure in the rating of all papers in order that there may be as close co-operation as possible. The suggestions to the schools upon the rating of papers go into some detail in each group of subjects, but the following general suggestions relate to all subjects:

1. The mental attitude of the examiner toward the paper should be kindly. It should be an attitude of addition rather than one of subtraction; that is, he should read the paper to discover what the pupil has gained of knowledge or of power rather than to see how far short the pupil has come of the examiner's knowledge, or of what some textbook contains, or of some preconceived ideal in the mind of the examiner of what a perfect answer should be.

2. The pupil should be allowed the benefit of the doubt in any case where reliable authorities differ or where there is other question of doubt.

3. Each paper should be considered *as a whole* before it is accepted or rejected. A paper at first rated 56 per cent. because of technical errors or the misinterpretation or omission

of a question, might as a whole be worth a passing mark of 60 per cent. On the other hand, a paper at first rated slightly above 60 per cent. might as a whole show such careless, slovenly, inaccurate work that it should be rejected.

4. Deductions should be made for lack of neatness and orderly arrangement of work.

5. Careful attention to the wording of the questions will usually reveal some basis for rating the answers. The directions, "give an account of," "describe," "narrate," "explain," are by no means synonymous with "mention."

6. A knowledge of general truths and laws and an ability to apply them to special cases should be given greater credit than the memory of an exceptional fact. Definiteness and accuracy should be insisted on when the nature of the question renders such answer possible.

7. The examiner should use his *judgment*.

The procedure has been given with some minuteness in order to emphasize the fact that the examinations are the product of the collective thinking of the active schoolmen of the State. They are based upon a carefully considered and publicly announced course of study; they are framed by experienced teachers in the several groups of subjects and given symmetry and balance as a whole by the scrutiny of a competent revision committee; and the answer papers are rated uniformly, so far as is possible, with due reference to definite, well-understood standards. This much with reference to the examination scheme as a whole as a premise to a statement of the conclusions which it may be safe to draw from the results of the examinations concerning the standing of schools and the qualifications of teachers.

It would be idle to urge that any system of examinations is a wholly satisfactory test of the knowledge or power of pupils, or of the ability of teachers to impart knowledge and to cultivate power. This system of Regents examinations has been so long established in New York State, however, and has become so thoroughly an integral part of the State's educational policy that it has come to justify its existence in the public mind as well as in the mind of the teaching fraternity by reason of its two fundamental purposes, which may be stated as follows:

(1) To test the knowledge and capacity of pupils and to provide a basis for the issuance to them of useful credentials giving evidence of that knowledge and capacity.

(2) To test the quality of the teaching in the schools and to set up in the schools throughout the State safe minimum standards of efficiency and productivity.

Keeping in mind the weaknesses of any centralized examination system, and at the same time, the basis, conduct and purpose of this system of Regents examinations, we may now inquire in what way the system may serve as a basis for the rating and promotion of teachers.

The records of the Examinations Division for each year show the number of pupils instructed in each school in each course in which Regents examinations are given, the number of papers written, the number of papers claimed by the school for acceptance at the University and the number of papers finally accepted by the University examiners. It is a rather remarkable fact that through a long period of years, about 30 per cent. of the papers written in the schools each year are rejected by the combined result of local and central ratings. The per cent. of rejections often varies widely in different subjects, but the per cent. of total rejections remains almost constant. This fact is the more noteworthy when it is remembered that the passing mark at which papers are accepted does not seem materially to affect the number of papers which reach the passing mark. The passing mark in all Regents examinations was formerly 75 per cent. There is no appreciable change in the total per cent. of papers rejected now that the passing mark is 60 per cent. In January and June, 1914, 425,986 papers were written in the secondary schools of the State, of which 341,673, or 80.3 per cent. were claimed by the schools for acceptance at the University. Of the papers claimed, 297,390, or 87 per cent., were accepted by the University examiners. It will thus be seen that out of the total of 425,986 papers written, 69.8 per cent. were finally accepted. This means that 30.2 per cent. were rejected. The experience of the central office proves that it is reasonably safe to judge in large measure the efficiency of a given school by the relation which its total per cent. of papers finally rejected bears to the average per cent. of rejections for the entire State. Conclusions drawn wholly from the result of examinations have frequently been confirmed by personal inspection of the schools. Here, for instance, are the records in a given school for the last year: 1588 papers written; 1276 papers claimed; 1176 papers accepted. It happens that the per cent. of papers written claimed is 80.3 per cent., or exactly the per cent. for the entire State. Further scrutiny of the record shows that 74 per cent. of the papers written were accepted, as against 69.2 per cent. for the State and that 92.2 per cent. of the papers claimed were accepted, as against 87 per cent. for the State. The general conclusion that this school is considerably above the average in efficiency of administration and thoroughness in teaching is confirmed by information derived from other sources.

Now, each teacher in a given school contributes his or her part to the general result of a year's participation in Regents examinations. It is possible, by the same method of comparison, to determine the relative efficiency of different departments in a given school or of similar departments in different schools and to go further and determine the relative efficiency of individual teachers. In the department of science in a given high school, for instance, last year, 747 papers were written, 396, or 53 per cent. of the papers written were claimed for acceptance at the University and 230 papers, or 30.8 per cent. of the total number written were finally accepted. These figures give unmistakable evidence of weak departmental administration and of poor teaching. In the first place, if the teaching of all of the subjects in the science group had been thorough and only those pupils who had completed in a satisfactory way the work of the year had been admitted to the Regents examinations, it would not have been necessary for the school to reject at its own rating such an overwhelmingly large number of papers. Again, if there had been close departmental supervision of the teaching and of the rating of the papers, it would not have been necessary for the University to reject so large a per cent. of the papers which were forwarded to Albany. Closer study of the records of the individual subjects reveals the fact that the work of some of the teachers was good and that of some others was hopelessly bad. The record of a given teacher may be traced for a period of years even in different schools and sound conclusions drawn from the success or failure of his pupils in Regents examinations. Much more may be taken into account, however, than the mere record of a passing mark or failure. The relation of the number of pupils instructed to the number admitted to the examinations, the per cent. of papers which the teacher throws out on his own rating, the degree of excellence assigned to the papers which are forwarded to the central office and the nature of the appeals which are made from the ratings of the University examiners are all contributing factors in the determination of the standing of a given teacher. It is by no means to be inferred that mere success ''in getting pupils through'' is regarded as a badge of honor. Indeed, the methods of the teacher whose sole effort is to prepare pupils for examinations are not infrequently brought to light in the administration of the Regents examination system. The incidents of administration often throw light upon the real worth of teachers. The accumulated knowledge of school systems and of individual teachers as revealed through the actual records of repeated examinations and the related incidents of years of experience furnish the basis for reasonably safe judgments. The records are open to all supervisory officers and to teachers themselves at all times. It is not urged that these records furnish a wholly trustworthy basis for judging a teacher. It is only suggested that they may serve as one useful means to that end.

Lest it be thought that too much emphasis is put upon the value of examinations in determining the standing of teachers, it must be pointed out that the Regents examinations are not without attendant evils and that conclusions may not safely be drawn without due recognition of such evils. While the main business of these examinations is to give tone and character and safe minimum standard to the work of the schools, it is sometimes forgotten that the certification of pupils and the issuance of credentials are incidental to this main purpose, and teachers not infrequently center attention upon the means of *getting* credit rather than upon the ways of *building* it. It can not be denied that the examinations operate at times to emphasize stuffing at the expense of leading. It may even be said that the evils of the system are so apparent that it is not difficult by a study of the records of the Examinations Division to divide the secondary schools of the State roughly into two classes, namely (1) those which use examinations, and (2) those which allow examinations to use them. Happily it may be said that the number of schools which use examinations increases from year to year.

It ought to be said, moreover, in conclusion, that in determining the value of the examinations as a basis for the rating and promotion of teachers, due reference should be had to the ideals which control the several classes of examinations given in the State of New York. In no case, it may be said, is an examination alone the sole test of a candidate's fitness to possess a given credential or to practice a given profession. The academic diploma issued by the University, for instance, upon which, under certain conditions, a teachers' certificate may be issued, is earned upon examinations, but it is only the official evidence that the holder has spent four years of study in an approved secondary school. The teachers' certificate based solely on examinations is rapidly disappearing and a credential which gives evidence of certain systematic professional training in addition to examinations is taking its place. The medical licensing examination is only the means which the State uses to legalize medical practice and the license itself reaches back to the preliminary education and to the four years of serious professional study in a medical school which has maintained a standard satisfactory to the State. New York is much given to examinations, but all of its examinations provide for and presuppose thorough and systematic training as a condition of entrance thereto. Every effort is made to emphasize the fact that teaching is fundamental and that examining is incidental. In practice, the results often fall far short of the ideals of the system. In the secondary schools especially, the value of the examinations has become so thoroughly crystallized that teachers are inevitably in some measure to be judged by the results that they secure through the examinations.

DISCUSSIONS AND COMMUNICATIONS

SIZE OF CLASS AS A FACTOR IN SCHOOLROOM EFFICIENCY—A REPLY*

Eugene Randolph Smith
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P 195

THE article on "Size of Classes as a Factor in Schoolroom Efficiency" in the March number of EDUCATIONAL ADMINISTRATION AND SUPERVISION seems to me to be a typical example of insufficient data, unanalyzed statistics and unjustified conclusions. The article carries weight on account of the author, the school from which he writes—which will be sufficient testimony for many—and the magazine in which it is published, and it is therefore all the more dangerous if its logic is at fault.

While it does not seem worth while, or, in fact, possible, to completely analyze the tables given, I wish to call attention to certain considerations in regard to them. For the purpose of this letter I shall deal only in approximate figures, as the purpose is served just as well without dealing to any great extent in fractions of pupils or in too exact percentages.

In the first eight tables the author uses 1348 classes of from less than 10 to more than 56 pupils. The first question that arises is as to the policies of the cities in question in regard to large and small classes. How do the 39 classes in city schools happen to average 9 pupils each? If these were classes of normal pupils, would it not be likely that there would be a readjustment with the largest classes so that the classes would be nearer the average size? Or might there not be combinations which would save teachers, especially as the cities in question are not large, if the return of about 1100 elementary school pupils per city is to be taken as a standard? May these not, then, be classes of abnormal children, brought together for more efficient work? If, however, the children are normal, what is the policy in regard to teachers? In many places it is customary and logical to choose the strongest teachers for the large classes and use the inexperienced and weaker teachers in the classes which are, for any reason, of smaller size.

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*Mr. Harlan's reply to this discussion of his contribution will appear in a later issue of this journal.—EDITOR.

But even granting that conditions are equal in all the classes, which is very improbable, the conclusions reached by the author are not justified.

He first considers promotion rates and withdrawals, and *considers them separately.* It is an open question whether promotion rates, unless the standards of the school are very carefully conserved, are a fair test of a school's success. They would be especially open to question in regard to size of classes, for it is evident that the teacher of a large class cannot know the capabilities of her pupils as intimately as the teacher of a small class, and therefore that she may not promote as accurately.

To obtain approximately accurate data on the success of a school as judged by promotions and withdrawals it would be necessary—

1. To find schools whose standards are carefully conserved.
2. To have classes of different sizes, composed of pupils of normal ability, taught by teachers of the same average qualifications, carried through the grades.
3. To prepare tables showing what percentage of pupils starting in the first grade, and remaining in a class of a certain size, complete satisfactorily each successive grade of the elementary school.
4. To know what weight to give to keeping a pupil in school through any particular grade. For example, it is far better for a school to keep a boy through the sixth grade than to have him complete the fifth grade only.

But even on the material furnished in Tables II and IV, the question can be roughly considered from this standpoint. Dividing the classes into three groups, and taking average percentages, as is done by the author in Table IV, the following data appear:

	Per cent. promotions.	Per cent. withdrawals.	Pupils per 1000 remaining.	Saving per 1000 over next higher group.
Classes under 20	84.9	11.7	750	34
Classes 20 to 35	83.1	13.8	716	42
Classes 35 up	81	16.8	674	

These results suffer from two inaccuracies. They are gotten from different numbers of pupils in different groups, yet they assume that these precentages would hold on groups of equal size; also there are no data concerning the number of pupils who drop out during the summer after passing the year's work. In a complete investigation both of these sources of error could be corrected.

If these figures were accurate, they would show that of every 1000 pupils who are in classes of over 35, 34 who could have done their work in classes of from 20 to 35, and 76 who could have done their work in classes of less than 20, fail to complete the work *each year.* If accurate investigation should show even half of this, what would it mean for the total of the eight years of an elementary school course? Apparently that large classes eliminate all but the best material, losing each year many pupils who seem to be saved in smaller classes. Might not such a percentage, taken in relation to our present investment in school systems, justify a reduction in the size of classes, rather than the author's conclusion that smaller classes do not make for economy?

The author follows the tables on promotion and withdrawals by others dealing with the examination of the pupils by means of the Courtis tests. If the smaller classes carry over so many more pupils, what effect would this have on the results as given by the Courtis tests?

The extra pupils who remain in, and are promoted by, the smaller classes are without doubt largely from the border-line group who will fall below under certain conditions and who will be saved under better conditions. The average quality of these pupils is therefore below the average for all pupils. This fact would seem to invalidate the Courtis tests as testimony on the relative worth of large and small classes, except as they might show that the smaller classes succeed in bringing up the poorer material which they have saved to approximately the same standard that is reached by the more uniformly high-grade groups carried on in the larger classes. The question as to whether the small-class pupils have always been in small classes and the large-class pupils have always been in large classes naturally enters in here and would be difficult to control. It would seem, however, that the results of the combined table on promotion and withdrawals might very well explain the fact, if it is a fact, that small classes show no advantage over large classes in these tests, and that the small classes have more minus deviates.

Tables IX, X, XI and XII are based on a different set of 30 classes which were under the observation of the author. The number of classes is very limited, and the internal evidence of the personal element, either in pupils or teachers, is so strong that it far outweighs any bearing these tables might have on the question under discussion.

Table IX gives percentages of pupils not giving attention over one-half of the time. There seems no excuse for any normal child in a class even fairly well taught, and working under fair conditions, not to give attention over one-half of the time. Moreover, it requires a great stretch of the imagination to make one believe that of classes of 14 pupils (11 to 15 group), 5 in each two classes are so totally inattentive; that the addition of 4 pupils to a class, making classes of 18 (16 to 20 group), practically doubles the inattention, making 5 inattentives in each class, while the addition of 6 more pupils a class, making classes of 24 (21 to 25 group), cuts down the inattentives to 4 per class! The additional pupils would need to be of strong personality and of opposite tendencies in the two added groups if the reason for the observed conditions lay with the size of the classes. How many executives would keep a teacher who would allow 5 out of 18 pupils in her class to waste over one-half of their time? I hope not many.

As a matter of fact, these 10 classes, which average 18 pupils each, appear to need supervision. Not only are 5 out of each 18 pupils grossly inattentive, but they make a very bad showing in the time they take to perform the mechanical activities; 3 out of each 18 fail entirely to take any part in the recitation, and in study hour they waste over 40 per cent. of their time. They seem hardly fair samples of well-conducted classes.

Table X, which gives the percentage of each class taking part in the recitation, brings out the anomalous fact that in classes of from 16 to 20, 17.5 per cent. did not take part, and in classes of from 41 to 45, the same percentage, 17.5, did not take part. Of the average class of 18, 15 took part in the recitation, and of the average class of 42, 35 took part in the recitation. Is the important point the fact that the same number of pupils speak or write during a recitation, or does it matter what they say or do? Can a recitation period divided among 35 pupils have the same value to each that it has when divided among 15 pupils? Why did not the other 3 pupils in the classes of 18 take part? Did the teacher fail in her duty to bring each into the work, or is 15 as many as can profitably take part in the time allowed? Are the more scrappy answers, which must have been given in the larger classes, of even approximately the same value as the careful statements the teacher of the smaller class had time to demand? Stenographic reports of such recitations would give some data on this point, and examinations in oral English might also add to our knowledge of the subject.

Table XI only serves to emphasize the fact that the classes were not equally well taught. It is quite likely, however, that the fact that large classes must be handled in more or less military fashion may make for prompt performance of mechanical activities. Whether this gain, if it exists, compensates for other losses is doubtful.

Table XII simply shows the absurdity of trying to use inadequate data. One class of 6 pupils wastes 41.7 per cent. of its time, while one class of 30 pupils wastes only 1.6 per cent. of its time. What would happen if the teachers were interchanged, or if the 6 pupils in the smaller class were interchanged with 6 from the class of 30?

This table also shows the fact already mentioned—that in the 10 classes averaging 18 pupils over 40 per cent. of the time was wasted.

Surely such results are not typical of our schools, and such a table, built on a total of but 30 classes, would not warrant the author in the following statement:

"Although the data of the above tables are inadequate for conclusive proof, the results would seem to warrant these conclusions:

"(1) The largest percentage of time is wasted in classes of 10 pupils or less (based on one class of 6 pupils which wasted 41.7 per cent of its time!).

"(2) The smallest percentage of time is wasted in classes enrolling from 26 to 35 pupils (based on one class of 30 pupils).

"(3) Small classes seem to waste more time than large classes."

The author does qualify his rather positive conclusions by admitting some inadequacy of data, but he leaves with the uncritical reader a strong impression that he has gone far toward establishing the fact that small classes are little, if any, more efficient than large classes.

The fallacies I have pointed out are the ones that seem to me evident on even a casual inspection, but anyone who analyzes the article with care will find much more that is open to criticism. If I have been successful in my attempt to show that the author's data can be at least as well explained by other causes than the inefficiency of small classes, my purpose in calling attention to this article will have been fulfilled.

THE ORGANIZATION AND ADMINISTRATION OF A STATE'S INSTITUTIONS OF HIGHER EDUCATION*

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A NOTABLE contribution in the field of the administration of higher institutions of learning is Mr. Arthur Lefevre's report as a result of the studies made by him for the State of Texas and published in 1914. The report is divided into two parts. Part I deals with "Features of Organization for Which the State Legislature is Responsible," and includes five chapters. Part II discusses, in seven full chapters, "Internal Organization and Administration."

Throughout the report there is evidence of breadth of view and of careful survey of the literature of the subject. Such writers as Presidents Van Hise, Schurman, Eliot, Hill, Pritchett, Dean Eugene Davenport, Professor Paulsen, Mr. E. E. Slosson and Mr. Birdseye are quoted freely.

Mr. Lefevre, in his introductory chapter, gives us the key to his general point of view in these words: "A university should be a true organism, not a mere combination, and its parts can healthfully subsist only in an atmosphere of confidence and fellowship and through spontaneous mutual service." As regards the treatment of diverse institutions of a State, he believes that both the evils of rivalry before Legislatures and duplication of work may be met in a more effective way than by the establishment of central boards of control. The first of these evils he would undertake to remedy by providing a sufficient tax, definitely and equitably distributed, for the support of all institutions. The evil of duplication he minimizes, and holds that it may be eliminated by co-operation.

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*By Arthur Lefevre, Austin, Texas, writing on "Organization for the Enlargement by the State of Texas of Its Institutions of Higher Education." Pp. 524, IV. Von Boeckmann-Jones Company, printers, Austin, Texas.

As to boards of control, he sums up his argument thus: "In no event would it be wise either to replace our properly independent boards or regents by a central board or to subordinate them to a superior board of control." As a standard system a board appointed by the Governor, not ex-officio, as a rule, but with a term of office three or four times the length of the Gubernatorial term is recommended.

Such a recommendation, after the experiences in various States, seems hardly to be expected. The extension of the term would have little effect in States where partisan politics determine elections, and where this may mean one party in control throughout a half-dozen terms in the Governor's office. Nothing could be more conducive to stagnation and weakness in a board than such a system under extended partisan rule. An elective board, chosen at large in the State, and made continuous by the election of two or three members each year, would be preferable. If desirable to eliminate partisan politics, the election might occur as distinct from general political elections as in the case of many local educational elections.

We may readily agree with the writer of the report when he favors one board where two or more normal schools are concerned, and that this should be a continuous board. As to the entire argument about a central board of control for all institutions, it still remains to be proven that equitable distribution of financial support can be obtained through co-operation and by proper legislative regulation. On the other hand, there is always possible a wisely-formulated scheme of advisory boards for separate institutions, possessed of a certain degree of autonomy as regards peculiar interests of institutions, and at the same time holding an advisory relation to the central board. With the failure of co-operation to secure the desired end, the one central board of control thus modified might not be a bad alternative.

In referring to the conversion of normal schools into colleges with degree-conferring powers, the report contends that this would result in wasteful duplication. Why confuse the special technical character of the normal school with the work of the liberal arts college in a university? Is it not likely that for purposes of the teacher the academic work of the undergraduate would better be done in a manner so as to correlate closely with the professional work? And if only a professional degree be granted, where would there be any unnecessary duplication? On the other hand, the teacher thus trained would be able so to select courses as to be qualified for graduate work in a university school of education. Meantime, with the junior college and the teachers' curriculum rapidly taking form as a development upward of secondary school work, the place of the normal school must naturally come to be that of the undergraduate technical school for teachers as a part of the university function of the State.

It is quite true that there should be presented a united front to Legislatures by all educational institutions; but how are we to secure this united front? Evidently by one of the alternatives suggested above. When, however, it comes to co-operation by State institutions with denominational and privately-endowed colleges a new problem is presented. That such co-operation is desirable cannot be questioned. But the State, having entered into the business of providing for both elementary and liberal education, can hardly choose to delegate part of this to institutions otherwise governed. It may, however, very properly invite and encourage the use of its higher institutions in supplying that training needed by all alike in a given professional career, thus leaving other institutions free to deal with the needs of the specialist. Or the State graduate departments may as readily accept the undergradute training of the private college as a basis for graduate work.

Part II opens with a discussion of governing boards. "The fundamental principle that should determine the nature of the control exercised by the governing board is that the control should be *legislative*." In the discussion which follows the essential responsibilities of such a board are set down as (1) "legislation that really organizes according to the true nature of an institution of higher education, and (2) judging results." This is in accord with the best we have from the reported experiences of different institutions.

Turning to the faculty, we find Mr. Lefevre saying: "Except for creative work and certain services to the general public, the members of the faculty exist, as such, for the student." This is all well enough; but the real problem now seems to be to determine where the student, aside from the graduate work or in technological fields, is to come in. Too frequently, it seems, the raw undergraduate lower classmen have to take chances with instructors equally raw in the field of teaching. This phase of weakness in the distribution of faculty service the writer handles vigorously; and if sometimes he appears to be too emotional in his treatment, those of his readers who are at all in a position of sympathetic relation to this problem will be inclined to overlook this departure from the decorum supposed to characterize the report of an expert.

Speaking of the need of greater faculty participation in the government of a university in its internal workings, he quotes as follows from James P. Monroe: "The imperative need of our American college faculties is not higher salaries; it is larger professional authority and more genuine freedom." A strong case is made out for larger participation by the faculty, mainly through better organization of departments.

After giving due consideration to such topics as business management, budget making, the office of registrar, and advertising, the report turns to the executive office and subordinate administrative functions. It is made clear that "no opportunist can be a good leader for a university." The essential functions of the chief executive officer of the board of regents are classed as follows: (1) To be the executive agent of the board, vested with due authority to put into effect the laws enacted by the board; (2) to be the intimate expert advisor of the board, with the right, inherent in his office as president, to select and nominate all appointees to university positions; (3) to have "leadership in, but not command, of the whole development of the institution." The distinction is thus clearly made as to the democratic nature of the organization.

The executive problem of elimination as applied to the faculty is dealt with conservatively, while an unusual point of view is taken with regard to the colleagueship of the president. The president "is no more specifically a colleague of the members of the faculty than a regent is their colleague," declares the writer of the report.

Several equally unusual ideas are advanced in dealing with the lesser administrative offices. "Acting" presidents and vice-presidents are declared to be unnecessary. A dean should be chosen by the faculty, and not imposed upon it. The title should read dean of the faculty, not dean of the college. The fundamental idea in all this is that titles that do not fit clearly into the general scheme of organization should never be included in it.

Seventy-six pages are devoted to discussion of the faculty. The faculty is the nucleus. It is "the comparatively continuous body among all the component parts of the university." It is therefore essential that harmony and good-fellowship reign in this body.

The educational policy of a college and of the university as a whole are not to be confused. If this injunction could always be observed, much unnecessary debate and discord might be avoided. In order to preserve the history and precedents established by faculty action care should be exercised in the keeping of faculty records. For this a competent faculty secretary is needed. In the matter of departmental organization in the faculty, the "committee-of-the-whole" plan is urged rather than the designation of department heads.

The discussion of *Lehrfreiheit* is vigorous and refreshing. We are reminded that "*Lehrfreiheit* is not a license nor a stipulation of any sort; it is a principle, a code of honor. The freedom is the reverse side of a responsibility."

There follows a presentation, in order, of such topics as rank, tenure, salaries, recruiting a faculty, ideals, degrees and examinations. These are well handled, for the most part, and the discussions show both intelligence and breadth.

The keynote to the author's treatment of the administration of the curriculum is sounded when he condemns unsparingly the prevailing methods of attempted "regulations." We are again compelled to note a giving way to emotion amounting almost to bitter sarcasm, thus detracting somewhat from the weight which the report might otherwise carry in securing much-needed reform. Here is a fair sample of the attitude taken: "The curriculum requirements in the majority of American colleges, respecting either concentration or scattering, have little or no effect for their avowed purpose. It is a statistical fact that they are more than fulfilled under free election. This fact exposes the caliber of the men who dominate the faculties that moil and stew over the concoction of such regulations."

His arraignment of the group system is merciless in its severity. "It is tolerated," he exclaims, "only because its effects are masked for inexpert observers." In spite of the emotion displayed, any one familiar with the operation of the group system is compelled to assent to the justness of his major criticism. Here we find group legislation displayed on a footing not unlike that of compensation rates fixed by labor unions where varying degrees of skill are disregarded. Whatever may be involved in the interests of the student, each department must have its full share of exploitation.

The report contends for the correction of what is asserted to be a serious mistake, viz.: the granting of the same degree for widely-varying standards of proficiency attained by the candidates commonly admitted to graduation. Here we might properly raise the question as to whether there can ever be any such ideal "leveling upward" in degree-conferring.

In discussing the high school as related to the university, and also in comments on the elementary school, one is left with the feeling that the heart of the problem here presented has not been reached. In one paragraph we find him deploring restriction upon high schools, and declaring that "if the bonds are not speedily loosed, they will be burst with reactionary violence." In the next he delivers himself of some certitudes as to the program of studies, as "Whatever experience with free variations may prove to be best, we may be sure that it is a mistake to give the same time to every subject." Who is there that is so certain of relative educational values, of those things which we must, perhaps, come to consider as constants, as to be able to suggest any such time measurements in the treatment of subjects in the high school program as this last quoted statement implies?

The report closes with a chapter on student life and work, which is an interesting and valuable résumé of modern discussions and tendencies in respect to this very important phase of university administration.

SCHOOL LEGISLATION IN KANSAS

L. D. Whittemore
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THE Legislature of Kansas, in the session recently ended, enacted laws of more than local interest relating to teachers' certificates, textbooks, rural high schools, and the State Department of Education.

A new certificate law provides for a progressive series of requirements from the lowest certificate issued by county examining boards, limited to one year and confined to the elementary schools of a single county, to the life diploma issued by the State Board of Education and valid as a certificate in any educational position in the State. The principal features of the law are the distinction between elementary schools and high schools and the graded scale of requirements and privileges, encouraging every teacher to put forth the effort necessary to secure a certificate higher in grade and value than the one which he now holds.

Heretofore there has been no recognized distinction between elementary schools and high schools in respect to the legal qualifications of teachers; and in cities of the first and second class and in school districts employing more than 10 teachers the local authorities could issue certificates for any grade or department. No standard has been established for high school certification, and it has been comparatively easy for a teacher with limited qualifications to secure the necessary credentials for a high school position. Under the new law high school certificates will be issued only by the State Board of Education and the State normal schools; the requirements in both cases will be similar, and will include a four-year course in an approved high school and in addition thereto a four-year course in an accredited university, college or normal school, with professional training specified by the State Board. In the absence of satisfactory credentials applicants may qualify by examination. The first certificate is good for three years, and is then renewable for life on evidence of successful teaching for two years; but life diplomas may be granted to teachers of recognized ability who have met the requirements for three-year renewable certificates.

To applicants who have completed a four-year high school course and a two-year course in a college, university or normal school a three-year certificate may be granted, which is renewable successively for three-year periods on conditions prescribed by the State Board of Education. This is valid in elementary schools, and may be valid for high school teaching under regulations made by the State Board. The purpose of this provision is to open the way to high school positions to gifted teachers who may not have the standard amount of training; but the supposition is that such teachers will qualify themselves speedily for the standard high school certificate.

Special certificates in highly specialized subjects are also provided for in order to permit the employment of teachers unusually qualified in music, art, and vocational branches. Provision is made to protect teachers who are now employed in high schools, and the

State Board has authority to issue temporary certificates for one year to meet any emergency.

Certificates granted to graduates of normal training high schools and all county certificates will hereafter be limited to elementary schools; but holders of first grade county certificates may obtain three-year elementary State certificates if they have completed a four-year high school course, and if in addition they have had two years of college training or four years of successful teaching.

The effect of this revision of the certificate law will be a decided elevation of professional standards in teaching; and that the effect will be immediate is indicated by the number of inquiries which have already been made at the office of the State Superintendent by teachers who wish to improve their professional standing.

The textbook situation in Kansas for the past two years has been far from satisfactory. The price of high school books, fixed by law in 1897 and 1899, has prohibited the use of some of the most desirable books, and a strict interpretation of the textbook law by the Supreme Court excluded all supplementary reading matter in elementary schools and restricted all grades to the use of a single series officially adopted by the school book commission. An amendment to the textbook law removes the arbitrary price limit and gives local school boards authority to select supplementary books from a list approved for this purpose by the commission. This relieves an intolerable situation, and will permit the schools of Kansas to resume work to the limit of their capacity and with standard equipment.

The acts relating to high schools had for their object the furnishing of free high school privileges to all qualified pupils in the State. Rural high school districts of not less than 16 square miles may be organized by vote of the people in the proposed district; and by a referendum vote provision is made for the automatic operation of a system which will provide a fund by taxation to pay the tuition in an accredited high school of every qualified pupil for whom high school privileges are not otherwise provided.

In accordance with the recommendations of State Superintendent Ross and the resolutions of the State Teachers' Association, a bill was passed which provides for the reorganization and strengthening of the State Department of Education.

The chief provisions of this act are as follows:

The department is composed of the State Superintendent, the State Board of Education, and all assistants and employes.

The members of the State Board of Education are the State Superintendent, the chancellor of the State University, the president of the State Agricultural College, the president of the Kansas State Normal School, and three other persons appointed by the Governor, one each year for a three-year term.

The State Board may employ a secretary for a four-year term, whose duties include the inspection of accredited colleges and all matters relating to State teachers' certificates. The person appointed must be an educational expert, a college graduate, with not less than five years of experience as supervisor or superintendent.

The State Board will have exclusive authority to define official standards of excellence in administration, courses of study, and instruction in rural, graded, and high schools, and to accredit those schools which maintain the specified standards.

Graduates from accredited high schools will be admitted to the State University, the State Agricultural College, and the State normal schools.

Four assistants may be appointed by the State Superintendent as supervisors of rural, graded, and high schools; and the high school inspection previously carried on by the State Board of administration of higher institutions will be discontinued.

By this act the number of persons employed in the State Department will be exactly doubled, and the appropriation will be more than twice as large as formerly, and the salaries of the State Superintendent and his first assistant will be moderately increased.

The department will be a permanent and a professional organization, capable of doing constructive work which will affect all parts of the State school system. As the head of this organization, Superintendent Ross will have an opportunity which none of his predecessors has enjoyed; and no one who is acquainted with his aggressive personality and his executive talent will have any misgivings as to the value of the service which his department will render to the State.

One of the bills which failed to pass provided for the appointment by the Governor of a commission on public education to report with recommendations to the Legislature of 1917; but the Legislature of 1915, by its progressive action in all other matters, made the creation of such a commission unnecessary.

MODERN EDUCATION IN JAPAN

T. Mizumo
University of Illinois

THE reorganization of the board of education changed the school system of Japan and improved every feature of it. Today the system of elementary education especially is completely organized. The original model of the system is the American school system. In Japan also elementary education is free for all. But the modern national system of public education in architectural features looks more like the French system—and is even more completely unified than the latter, since not only all institutions for general education, but also industrial and technical schools are included in the province of the ministry of public education.

The efficient inspection service and the large provision for the training teachers have established close relations between individual schools and the central authority, and teachers have a recognized standing.

Now over 98 per cent. of all the children of school age (6 to 14) are following the prescribed course of instruction. If one looks at these percentages, calculated every 10 years, he can easily understand the rapid progress.

Percentage, Calculated Every Ten Years.

Years	1873.	1883.	1893.	1903.	1909-10.	1910-11.	1911-12.
Male	39.90	67.16	74.76	96.59	98.86	98.83	98.81
Female	15.14	36.63	40.59	89.58	97.26	97.38	97.54
Male and female	28.13	51.02	58.73	93.23	98.10	98.14	98.20

The compulsory law provides that all children must attend school six years of the eight covered by the legal school period.

The middle schools of our country correspond largely to the high school of the United States. But our middle schools are not free for all. However, in a near future, there must be some reform in the middle school system in Japan. The course of study is in extent five years. A boy who has finished six years of the primary school education is qualified, theoretically, to enter a middle school on diploma. But, in practice, owing to the fact that the number of applications far surpasses the available accommodations, applicants are obliged to undergo selective examinations. At most public middle schools only about 61 per cent. of the total number of qualified applicants have been admitted during the last few years. The average age of the new boys was 13.9 years in 1906-1912.

From the following table one can roughly sense the general tendency as to vocational expectations:

Graduate and Subsequent Careers.

Careers as Reported Within the Year After the Graduation.

	High schools.	Professional schools.	Military service or in military or navy schools.	Teaching.	Governing service.	Other businesses.	Unemployed or unknown.	Died.	Total.
1910-11......	1,198	5,951	779	1,835	335	1,962	5,641	89	15,749
1911-12......	1,279	4,251	750	1,939	403	2,235	5,827	79	16,763

General Statistics of Education.

	No. of schools, 1911-12.	Instructors and teachers.	Students and pupils.	Graduates.
Elementary	25,750	157,532	7,023,661	1,036,083
Blind and dumb..........	55	342	2,571	312
Normal	83	1,571	27,096	11,826
Higher normal	2	128	1,070	202
Higher normal (female)..	2	99	590	112
Teachers' institutes........	2	18	55	26
Middle schools	314	6,092	125,304	18,404
Girls' higher schools......	250	3,300	64,809	14,780
High schools	8	355	6,665	1,585
Universities	4	684	7,438	1,752
Special	65	1,933	27,468	4,257
Technical	7,270	7,283	399,565	112,083
Miscellaneous	2,277	7,435	142,868	45,941
Total................	36,081	186,776	7,809,140	1,247,362

There are three Imperial Universities which operate under the pure continental faculty system. In these universities more than 7000 students are studying, and every year more than 2000 graduate. Tokyo Imperial University is one of the largest universities in Asia. A suggestion of the broadening process in the field—from the mere study of the Japanese and Chinese classics—is contained in the statement that the university, in its desire to attract students, took the name "University of One Hundred Branches." Besides these

Government universities, there are several fully organized private colleges.

Studies in modern Japan now include all occidental as well as all oriental branches. The study of the English language has been made compulsory in all schools, and thousands of students have learned also German, French, Russian and Italian. Books of all languages have been imported, and libraries throughout Japan now contain as many books in foreign languages as in Japanese.

I understand that there are two countries which have higher normal schools—France and Japan. In our country there are four Government normal colleges—two for males and two for females. As an indication of how much attention the Government of Modern Japan pays to education, note the following synopsis of the scope and work of the Hiroshima Normal College:

Nature and Aim.—The Hiroshima Normal College is one of the two Government institutions for the training of men to be instructors in normal schools, middle schools and high schools for girls. It is under the control of the Minister of State for Education, its professors and officials being appointed by the Minister (President of State), its expenses being defrayed out of the State treasury.

Attached Schools.—With a view to furnishing opportunities for investigating the methods to be pursued in general education and affording college students a means of practical training, a middle school and an elementary school are attached to the college.

Admission.—Candidates for admission must be first-class graduates of normal schools or middle schools, under 25 years of age, and recommended by the governors of their prefectures. In these ways the Government is trying to train good instructors.

In general, the educational system of our country is not coeducational. Only the school of music admits both sexes. Even in the public elementary school, if there are enough girls to make a class, they are educated in a girls' class, separated from the boys. This is inevitable in any case, since the nation has been brought up on the teaching of Confucius, who said that it is better to separate the seats when the boys and girls have reached seven years of age. I think there is something to be said for this. One wonders whether there is any harm in coeducation in this country. No Japanese students know of the interest in coeducation except those who were and are educated in other countries.

As another evidence of educational awakening in modern Japan, books in many different foreign languages are also now printed within the Empire in printing offices equipped with modern type, presses and appliances. A large number of magazines are published in Tokyo, Kyoto, Osaka, Hicoshima, Sendai, etc., and almost every town has its local newspapers.

FIVE HUNDRED QUESTIONS ASKED BY SUPERINTENDENTS

Leonard P. Ayres
Director Division of Education Russell Sage Foundation

IN the offices of the Division of Education of the Russell Sage Foundation a classification has just been completed of the first 500 requests for information, advice or assistance received from city superintendents of schools during the current fiscal year, which began last October. This was done as a bit of self-survey work conducted with the object of throwing light on the nature of the information most frequently asked for. The results proved so interesting that it seems worth while to present them here as something of an index to the subjects now uppermost in educational thought and action.

Nearly one-fifth of all these questions deal with tests and measurements. Approximately one-seventh have to do with problems of administration, and nearly an equal number are directed toward problems of school hygiene. Almost one-eighth of all deal with surveys and exhibits, while nearly one-tenth have to do with problems of industrial education and vocational guidance. Of course, these proportions do not accurately indicate that these subjects occupy correspondingly important positions in the current thought of school superintendents. In some measure their nature merely reflects the character of the inquiries conducted and reports published by the Division. This relationship is, however, a most indirect one, and the questions undoubtedly are significant as indicating in some measure the nature of the problems that school superintendents most earnestly desire to solve.

The requests tabulated in making this classification were those of such a nature that they necessitated detailed, individual answers.

Those which could be answered by sending printed matter or by referring the writer to some book on the subject have not been included. The classification of the 500 questions is presented in condensed tabulated form in the following table:

Tests and Measurements:		
General intelligence	25	
Handwriting	23	
Different classroom subjects	22	
Spelling	19	
	—	89
Administration:		
Varied problems of administration	36	
Junior high school	11	
Superintendent's annual report	10	
Promotion and pay of teachers	9	
Promotion plans for pupils	4	
School finance	4	
	—	74
Health, Sanitation, Protection:		
Varied problems of school hygiene	26	
Medical inspection of schools	9	
The school nurse	8	
Dental inspection	8	
Open-air schools	7	
School lunches	7	
Fire protection	4	
	—	69
Surveys and Exhibits:		
Invitations to conduct surveys	31	
Survey methods	16	
School exhibits	13	
Industrial Education and Vocational Guidance:	—	60
Industrial education	27	
Vocational guidance	19	
	—	46
Classroom Instruction:		
Methods	17	
Textbooks	6	
Courses of study	5	
	—	28
Retardation and Elimination:		
Retardation	18	
Elimination	7	
	—	25
Problems of statistical procedure		27
Concerning candidates for positions		26
Educational sociology		21
Aid in drafting legislation		20
Subjects for educational conventions		8
Subjects and methods for theses		7
Total		500

It is interesting to note that tests and measurements occupy the first place in this list, while surveys and industrial education are well to the fore. The large numbers of requests for aid in the field of educational sociology is also significant as indicating the changing trend of educational progress.

Perhaps the most encouraging fact in connection with the entire matter is that very few of these 500 inquiries were trivial in nature or easy to answer. With few exceptions they were written with a thoughtful care that did not characterize the questions submitted to the Division in the earlier years of its existence. The nature of this mass of correspondence is one among many indications that the city superintendents of schools are facing problems of ever-increasing difficulty and complexity, and that they are dealing with them more earnestly, more carefully and more scientifically than ever before.

BOOK REVIEWS

William Setchel Learned. The Oberlehrer. A Study of the Social and Professional Evolution of the German Schoolmaster. Cambridge: Harvard University Press, 1914. Pp. xiv, 150.

The Harvard series of *Studies in Education* has made an auspicious beginning with Dr. Learned's excellent monograph on the German *Oberlehrer*. In a comprehensive survey of the status of this profession from the middle ages to the present time the writer has naturally depended largely on the principal German secondary authorities; but there is also evidence of familiarity with a considerable range of sources. He has kept in mind throughout the significance of this development for students of American education, and his main conclusions are clearly and vigorously stated.

The first chapter summarizes briefly the history of secondary education to the middle of the eighteenth century, noting its close connection with the Church and the generally inferior social and intellectual status of the teacher, for whom this work was a mere preliminary to more honorable service in the Church. Even the humanism of the sixteenth century is held to have made no considerable permanent impression on the character of the teaching.

Then came, in the second half of the eighteenth century and the first half of the nineteenth, the inspiring period of the "new humanism," when under the leadership of strong men like Friedrich August Wolf, the dry bones were made to live. The *Oberlehrer* became for the youth of his day an interpreter and evangelist of the ancient Greek ideals. His work became a serious and permanent profession quite distinct from that of the Church, with carefully-defined qualifications tested by State examinations. The secondary teachers of this era came largely from the lecture-rooms of the classical philologists, and brought to their work the same ideals of exact scholarship. Naturally enough, the early apostolic zeal for Greek culture suffered from a certain conventionalizing and hardening process in the days of its accepted supremacy. Naturally, also, this process included a detachment of the schools from the main currents of national life, which was more keenly felt after the establishment of the new empire in 1871.

In Dr. Learned's review of the recent development of the profession three results stand out most clearly. One is the series of concessions by which, simultaneously with the development of the *Realschulen,* the *Gymnasium* itself has been forced to develop the more modern studies at the expense, to some extent, of the older humanities. The aggressive support given to this movement by the present Emperor is, of course, well known. A second result is a sharper differentiation of ideals, as between the university professor and the secondary teacher. The older habit of estimating the professional success of both these classes by the same or similar standards of specialized scholarship has given way before a greater emphasis on the application of scholarship to contemporary and especially national problems. The ideal of productive scholarship for the secondary teacher has not been wholly abandoned, but seeks to realize itself less in advancing the common stock of knowledge in the subject taught than in perfecting the processes of education. The third result, which the author regards as largely dependent on the first two, is fuller recognition by the State and by society of the *Oberlehrerstand* as a really dignified profession on a level with the administration of justice.

In applying the lessons of German experience to American problems, Dr. Learned raises issues of great interest to anyone who is concerned with the training of young people, and especially young men, for secondary teaching as distinguished from administrative service as principals or superintendents. In a country where secondary teachers are still for the most part "hired" from year to year, with salaries less than may be commanded by skilled plumbers and chauffeurs, a knowledge of the important rôle assigned to the German *Oberlehrer* by such national leaders as Bismarck and William II may shock some of our fellow-citizens into a less complacent temper.

In one respect, however, the present reviewer, whose part in the training of teachers happens not to be that of a professor of education, but rather that of a college teacher of a subject also taught in the high school, ventures to express a certain misgiving. The question does not go to the author's main conclusions, including the desirability of general pedagogical training, but rather to certain implications which may be drawn by the ordinary American reader. Such a reader, lacking the author's historical background, is likely to rise from the perusal of this book with the impression that the most urgent need of secondary teachers is to free themselves from a one-sided emphasis on scholarship in the subject taught and, following recent German tendencies, to emphasize more sharply the interests which separate them from their colleagues who are teaching the same subjects in the college. The effect of such an emphasis is, of course, one thing in a country like Germany, where the traditions of scholarship are secure, and quite another thing in the United States, where we still have a long road to travel before our secondary teaching reaches the German standard of thoroughness. The author himself insists on the need of a decided advance in scholarship, and the question is therefore primarily one of the right distribution of emphasis, keeping in view the prevailing conditions which, in this country, do not indicate over-valuation either of humanistic ideals or exact scholarship. EVARTS B. GREENE.

University of Illinois, Department of History.

The General Education Board—An Account of Its Activities, 1902-1914. Published by General Education Board, 61 Broadway, New York, 1915. Pp. 240.

In any given period of time there may be distinguished three phases of education—the schooling of the children of kings, princes and wealthy men, the actual school conditions pertaining throughout the length and breadth of the land, and the educational theory advanced and occasionally practiced by the keenest thinkers of the day. The theory of the philosopher and the practice of the wealthy have often gone hand in hand. As far as it touches the average school child, theory and practice have been far apart, and improvements come only as the tedious result of tremendous effort.

There are many reasons for this. Tradition, supervision, apathy, all tend to postpone improvement. Fundamentally, however, it is a matter of money rightly placed. Once enlighten a people, cause them to realize their possibilities, and that generation will be able to hand down to the next the education which it has received, because of its increase of wisdom and consequent wealth and health. The initial capital is the great necessity, and it is precisely that which the past has lacked. The people were compelled to pull themselves up by their own boot straps, as it were.

But for once in the history of education, an organization has been perfected and means provided it whereby the gulf between pedagogical hopes and real schools has been narrowed. *The General Education Board,* through the foresight of its founder, and the wise administration of its members, has fulfilled a unique function. It has wisely inquired into the educational needs of the country. It has provided a portion of the initial capital. It has started the educational ball rolling, or has increased its velocity; and in the short space of a dozen years has directly or indirectly become the cause of improvements which would otherwise have required years to effect.

Realizing that public education depends upon public support, and that improvements in schools mean added expense, increased taxes, which depend upon increased wealth, the *General Education Board* first tried to help in the improvement of methods of producing and preserving farm products. Its farm demonstration work, touching the farmers directly, and its corn clubs for boys, and canning clubs for girls, reaching more directly yet into the very heart of the homes, have introduced scientific methods to take the place of tradition. This work has become so important that much of it has now been assumed by the Government. The initial capital, however, was supplied by the *Board,* and the result is that farm values in many sections of the country have increased, paving the way for increased taxation for the support of schools.

The next step lay in the transfer of a portion of this added wealth to the schools. A dozen years ago public secondary schools in the South as a whole were little more than a name, rural schools were in poor condition, negro schools ill-supported and ill-suited to the needs of their people. The fundamental need of the time was to evangelize the public school idea, secure more money, better support, more adequate buildings, higher paid teachers, longer school terms; and the majority of the people did not even realize this. It was here that the *General Education Board* made its second attack. It provided salaries and traveling expenses for certain men to spread the new point of view, to preach new and better schools, to plead for better support, to act as clearing-houses for the best in practice and experiment being carried on in this and other countries. These men, although paid by the *General Education Board,* were appointed by local authorities, and were in every sense of the word a real part of the situation in which they worked. The professors of secondary education have put life into the high school movement; the rural school supervisors have bettered the rural schools; the success of the supervisors for negro schools has been phenomenal. Better buildings, better and higher paid teachers, longer school terms and more adequate courses of study have been the result. It is interesting to note that the survey of the City of Richmond, carried on by the National Society for the Promotion of Industrial Education, recommended in effect that the city schools practice the same principles that had been so successfully applied by Virginia Randolph under the guidance of Jackson Davis.

The *General Education Board* has turned its attention to other lines. Out of its vast wealth it has made many donations to colleges and universities throughout the country, while in its help to medical education it has shared in the great work of putting our medical schools upon a right basis.

There is a unity of purpose about the work of the *Board* which is a sign of its efficiency. Almost every step it has taken has been to supply someone with the initial capital to carry out a good idea, to help people to help themselves. It is encouraging for our education in the United States to realize that at this time and in this country there is such an agency in operation. We still have a long way to go, and initial capital is still needed. We may have beautiful high school buildings, well-paid teachers, long terms, and yet have a poor high school on account of poor teaching. Cooking and sewing and agriculture are well taught in the negro schools, but larynx and pharnyx are apt to receive more attention than the toothbrush or the nasal douche. Nice rural schools, active parent teachers' associations and higher taxes may not mean that those schools are doing what the community needs. There is some initial capital needed to begin agitation along these lines. It is encouraging, therefore, to realize that there is an agency which will help us out at the points where we are weakest, which will provide the money to begin. The educational problem of the next 12 years will deal not so much with new buildings and the creation of general interest as in the scientific study of education, the elimination of waste, and the improvement of the methods of teaching in schools of all grades in our country. It is hoped that the *General Education Board* will continue to help here. William F. Russell.

George Peabody College for Teachers,
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JOSEPH S. TAYLOR. *A Handbook of Vocational Education.* New York: The Macmillan Company, 1914. Pp. 225 + xvi. $1.25.

This little book will be found interesting and instructive by those who wish an introduction to the field of industrial education with a historical setting. Although the author used the word "vocational" in his title, his treatment is confined to the narrower field. In this he has been chiefly concerned with the education of the boys, giving a very brief treatment of domestic education.

After a short introduction the author presents a concise historical and comparative description of industrial education in Europe. This is followed by chapters devoted to discussions on "Industrial versus Manual Training," "The Intermediate School," "Continuation Schools," "The Training of Vocational Teachers," "Vocational Guidance" and "Apprenticeship and Compulsory Education." After the concise summary the volume contains a 40-page "appendix," a collection of valuable material which must be examined to be appreciated.

The author has not thought entirely through the social problems which are involved in his "intermediate school" proposals. He thinks, with many others, that all that is needed to remedy the evils of elimination and to lessen the overcrowding of the traditional high schools is to establish these vocational schools. He forgets that many poor people do not wish their children to have a trade education, and will choose the classical if they have the chance. He says, "Reform schools organized on a vocational plan often receive boys only 10 years of age, and succeed where the public school has failed," overlooking the facts that reform schools turn out many failures, and that their successes are largely attributable to the fact that they control the entire environment of the child, something that the public school cannot do. The author is sane in his discussion of the relation of liberal to vocational education, but he seems to incline toward a dual system of administrative control. As a whole, however, he is a little inconsistent in his social theory.

In spite of these limitations, the author has made a decided contribution to the literature of vocational education. It presents the essential features of industrial education with a maximum of clearness and a minimum of padding, even if the treatment is in places superficial.

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University of Illinois.

G. A. Bricker. *Agricultural Education for Teachers.* New York: American Book Co., 1914. Pp. 172.

In this new publication of Professor Bricker's he has again, in his characteristic way, popularly set forth some of the problems connected with the teaching of agriculture in the public elementary and high schools. Perhaps it is not so necessary nowadays to enter so fully into the reasons why agriculture should be taught in the public schools, as Professor Bricker has done in the opening of his book for educators. Practical farmers are pretty generally convinced of the value of scientific agriculture as a school subject. It is well, however, for the teacher of agriculture to be able to give a reason for the faith that is in him, and Mr. Bricker has given these reasons adequately.

The chapter on the "Qualifications of the Teacher in Agriculture" is well chosen, and perhaps should have received greater emphasis than is given to it in the book. The work of the teachers' extension school, explained in chapter six of the book, is a new phase of agricultural teaching for which Mr. Bricker must be given the credit as originator under the Nelson amendment. His description of the plans for these schools should be helpful to all departments of agricultural education in State institutions. The author is sound in his belief that nature study in the course should be largely pre-vocational, leading to the study of elementary agriculture in the upper grades and high schools.

In his chapter on pedagogical problems the author has stated the problems well, but has not gone into the methods of solving them as fully as might be expected.

The desirable feature of the book is the practical work given under home projects and agricultural clubs. The brief reviews and questions given at the ends of the chapters summarizing the main points of the chapter suggest only a parrot-like repetition of the subject-matter given without calling forth any original thought.

The book is a valuable contribution to this new field of educational endeavor.

A. W. Nolan.

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EDITORIAL

"Educational" Reorganization

A CRITIC has said that what one misses when he examines the curriculums of schools is "design." This plan, principle of construction, purposeful combination of studies with reference to basic educational ideals and outcomes for chosen groups of pupils is a subtle and baffling thing. It is more and worse than this. For many school administrators it is even an "academic" question. Thinking too much about it tends to make one an educational mystic. For do we not know precious little about even the distinctive "educational values" of particular subjects? What, indeed, may we know about the effects of our combinations of these subjects in varying proportions in our so-called "differentiated curriculums" or "courses of study?" And, going still further, may we expect anything but a hopeless mess of it if we insist, not only upon differentiated curriculums, but, as inevitably we must do, also upon the *changed content* and *organization of materials* of the different subjects (mathematics or English, for example) with reference to the different "curriculum settings" in which they are to function? (1)

To make the matter concrete and specific we have lately visited a good number of so-called "Junior High Schools." We find in all cases the principal proudly conscious of the distinctiveness of his new institution, his teachers, pupils, building, discipline problems, student activities, "auditorium," advisor system, social center, etc. We have proceeded, as quickly as politeness allowed, in every case to make inquiries concerning the designs for the partially distinguishable schemes of training (courses of study), the bases upon which pupil groups are steered into this or that curriculum direction, the methods of teaching which seem best suitable to this new unit in the school system—and finally (and most vital and most perplexing of all the questions), what are the new organizations of the mathematical material, the language units of instruction, the bases for the selection and treatment of the literature, the foreign languages, science, history, etc., which are being adopted. The answer generally is, "We haven't got that far yet," "We plan to take that up next year" or "We have no reorganization of this sort in prospect."

If we are really going to reorganize our school system into new administrative units, it will be a great pity if we, educationally, merely do a little tinkering here and there—in spots, as it were. The psychological value of the new development is that it provides just that favorable new condition for seriously conceived plans which are more closely related to a clear educational philosophy, and which may be undertaken, less hampered by tradition and prejudice, than ever before. If we for the first year or two tackle merely the externals of reorganization and put off the strictly internal matters of reorganization suggested above, the opportunity for new and profound educational effects is squandered.

Every superintendent who tries the new organization at all should take his teaching force into his professional confidence and work out these difficult matters with them. Everybody should now be forming his convictions with regard to Junior High School English. Especially should the present be the occasion for all the language teachers of a system, for example, somehow to arrive at a mutual understanding of the new nodes in language development assumed by the new unit divisions and the consequent probable eliminations, condensations and supplementations of material demanded. Some reconstructions of the mathematics courses for these junior schools seem to be of profound significance, as do those for the industrial, domestic and commercial courses. With these problems are those of Junior High School Units and the qualifications of Junior High School teachers. This type of discussion is beginning already. "Latin in the Junior High School," for example, is interestingly discussed by Professor Lodge in *School and Society*, Vol. I, No. 9, although we do not believe that Latin is essentially, except under certain conditions, a Junior High School subject. C. H. J.

BOOKS RECEIVED TO MAY 1, 1915.

(More extended reviews of some of these books may be expected in later issues.)

L. R. ALDERMAN. *School Credit for Home Work.* Boston: Houghton-Mifflin Company, 1915. Pp. 181.

B. T. BALDWIN. *Present Status of the Honor System in Colleges and Universities.* Bulletin, 1915, No. 8, U. S. Bureau of Education. Pp. 31.

This is another one of many excellent pieces of work turned out by Professor Baldwin of Swarthmore, containing a well-organized summary of the workings and results of the honor system as differently applied at different educational institutions. Some interesting historical material makes the monograph of additional value.

C. S. BERNHEIMER AND J. M. COHEN. *Boys' Clubs.* New York: The Baker & Taylor Company, 1914. Pp. 136.

JAMES MCKEEN CATTELL. *University Control.* New York: The Science Press, 1913. Pp. 484.

The volume contains five introductory chapters by the editor. These are followed by 299 letters by leading men of science classified according to the institutions represented by the authors and all dealing with the question of university internal administration. There then follow ten chapters by various writers on university administration, a few of whom are themselves administrators. The general conclusion of the volume is that there should be more democracy in the government of American institutions of higher education. One particular value which is rather unique is that all the data, from which the reader is supposed to accept the editor's conclusions, are available in the single book and are also readable. It is possible, furthermore, that still other interpretations could be made from other reading of the first-hand material. One gets the impression from an analysis of the contents of this study that there are as yet no "principles" of university administration. President Angell of Michigan once said of President Eliot's *University Administration* that it should have been entitled "How I Governed Harvard," and that the comment would apply to all other such treatments.

W. W. Charters. *Teaching of Common School Branches: A Textbook for Teachers of Rural Schools and Graded Schools.* Boston: Houghton-Mifflin Company, 1913. Pp. 355.

Work in Education in Colleges and Universities, Rating, Placing and Promotion of Teachers, Lists of Investigations and Other Information of Interest to Members (of the Society of College Teachers of Education). The School Review Monograph, No. 6. Pp. 94.

One of a very valuable series of educational papers. The whole set should be in the library of every teacher of education, and would be of nearly equal value to school administrators and supervisors.

William H. Dooley. *Vocational Mathematics.* Boston: D. C. Heath & Co., 1915. Pp. 358. $1.

This new book on vocational mathematics is planned to be used either by the regular teacher of mathematics or by the teacher of shop work. It deals with a variety of industrial work, including problems in carpentering and building; sheet-metal work; bolts, screws and rivets; shafts, pulleys and gears; plumbing and hydraulics; steam engineering; electrical work; mathematics for machinists, and textile calculating, containing besides a review of the essentials of practical arithmetic and lessons in the derivation and use of formulas by algebraic methods. A number of experts have worked with the author in the preparation of problems and in the adaptation of the book to the needs of vocational and industrial courses.

Thistleton Mark. *Modern Views on Education.* Baltimore: Warwick & York, 1915. Pp. 263. 60 cents.

It is the author's purpose in this volume to emphasize the national importance of a more perfectly organized system of education and to awaken the public conscience to this need. It is difficult to summarize the contents of the eleven chapters in this book, but in general the plea for the thorough linking of elementary, secondary and university teaching is advocated.

Charles A. McMurry. *Conflicting Principles of Teaching.* Boston: Houghton-Mifflin Company, 1915. Pp. 290.

A. C. Monahan. *Organization of State Departments of Education.* Bulletin, 1915, No. 5, U. S. Bureau of Education. Pp. 46.

Samuel Chester Parker. *Methods of Teaching in High Schools.* Boston: Ginn & Co., 1915. Pp. 529.

The author is interested chiefly in efficiency and economy of instruction, as this can be effected by adapting instruction to social needs, by basing methods on psychological principles (experimentally determined where possible), and by applying "scientific management" to all teaching.

The author is at least very ambitious in his program and the captions of most of his chapters are interesting. Because of this extensive program we shall devote more space to a critical review of the volume in a later issue.

Josef Redlich. *The Common Law and the Case Method in American Law Schools.* Bulletin No. 8, 1915. The Carnegie Foundation for the Advancement of Teaching. Pp. 84.

This is an unusually good account of the pedagogy of law teaching. The account of the case system is fair, vivid and sane. It is not only valuable for teachers of law in law schools, but it constitutes a sample of good pedagogic discussion which may function to further the cause of scientific teaching generally, as well as to promote an interest in the development of legal science itself. A student primarily of the science of teaching might tend to stress the case method, for example, more as a "realistic" teaching device, whereas the author would seem to interpret it in its significance as an illustration of the scientific character which the accumulating materials of present-day legal science must, because of it, possess.

Bertrand Russell, M.A., F.R.S. *Scientific Method in Philosophy.* Chicago: The Open Court Publishing Co., 1915. Pp. 245.

Judging from the stormy championing and the equally stormy repudiating of this new brand of philosophy, one, out of pure curiosity, should look into this volume. It does not read like ordinary philosophy, but it is said to be by one of the most brilliant English philosophers, who has put his message into popular form as the eight "Lowell Lectures" delivered to an American audience at Boston in 1914. By the use of a so-called logico-analytic method the author claims to have reached whatever scientific knowledge it is possible to obtain in philosophy. It may be that this system of thought will contribute something to a philosophy of education which some think is slowly evolving.

NEWS NOTES

Dedication Exercises of the Wisconsin High School of the University of Wisconsin

THE dedication of the Wisconsin High School gave to the teaching profession of the State of Wisconsin an institution which is destined to play an important rôle in raising the efficiency of that body. It is a very material response to the urgent demand of schoolmen throughout the State for a laboratory and clearing-house for the exchange and refining of educational practices. In 1911 the first step toward the establishment of this school was taken by the Legislature, which authorized the regents of the university "to conduct and maintain a school for demonstration and practice in order to complete the organization of the school of education." This act made possible the consummation of the university's plan of developing a school which should provide for those of its students preparing to teach an adequate opportunity for the observation and study of expert teaching.

The school has been in operation since September, 1914, in a building specially equipped for its purposes and embodying the most up-to-date features of school construction. In accordance with the plans of its directors, a six-year secondary school, including the seventh to twelfth grades, is being developed. The organization of classes provides activities suitable for each year. Special emphasis is given to economy of time; able pupils are permitted to complete the secondary course in five years, thereby saving one year in entering the field of occupational activity or in preparing for college.

In connection with the dedication exercises was held the conference of the Wisconsin City Superintendents and Supervising Principals' Association. Invitation was extended the schoolmen of the State to visit the school on Wednesday and Thursday preceding the formal program, and a large number availed themselves of this opportunity to inspect the physical equipment and visit classes. On Friday a luncheon, at which Dean E. A. Birge of the College of Letters and Science presided, was served the visiting guests and members of the university faculty. Dean Birge set forth the progress made by the university during the last decade in the training of teachers.

On Friday evening, April 2, the formal exercises were held in the assembly hall of the Wisconsin High School. Five-minute addresses were given by the Governor of the State of Wisconsin, the State Superintendent of Public Instruction, the president of the State Teachers' Association, the president of the Milwaukee State Normal School, the president of the City Superintendents and Supervising Principals' Association, the principal of the Wisconsin High School, and the President of the University of Wisconsin. The dedication address was given by President Bruce R. Payne of the George Peabody College for Teachers, Nashville, Tenn.

The special feature of the conferences was a series of three sessions on Measurements, conducted by Prof. E. L. Thorndike of Teachers' College, Columbia University. These were "Conferences on the Problems of Educational Measurements," "Illustrations from Arithmetic and Algebra," "Conference on Measurement in the Case of High School Subjects," "Illustrations from English and Physics," "Conference on Measurements in the Case of Vocational Guidance."

Professor Thorndike presented the recent work and work now being undertaken in the construction of scales for measuring achievement and progress in school work. The nature and use of educational scales were shown by suitable experiments, and time was given to discussion and criticism.

A Projected "Survey"

THE largest piece of survey work since the New York school inquiry will shortly be undertaken in Cleveland, Ohio. It will consist of a general school survey covering all phases of the city's educational activities, and a vocational survey of the principal industries for the purpose of formulating a constructive program of industrial education. The plans contemplate a detailed study of the present school facilities and of means for their improvement and extension. On the industrial side the inquiry will include an analysis of industrial processes in all the more important manual occupations, with a related study of trade and educational conditions among the wage-earning groups for which vocational training would be of benefit.

It is expected that the work will be completed by the end of the present year. It will be conducted under the auspices of the Cleveland Foundation, which has secured the services of Dr. Leonard P. Ayres, Director of the Division of Education of the Russell Sage Foundation, as general director of the survey. The industrial inquiry will be in charge of Mr. R. R. Lutz, also of the Russell Sage Foundation.

The Nation and the System of Schools*

*Journal of Education (London), March, 1915.

WE do not think that the strange condition of the German mind is due to any particular fault in their education; the moral to be drawn is rather to beware of attributing too much to education. The credulity of the German is really only one aspect of his lack of independence of mind. This weakness is due to several causes: the tendency of the Teuton to wrap himself up in his own pursuits, to become absorbed in his own mental life, and so dependent upon others for his knowledge of the big world; the absence till the last generation or two of free public discussion, the greatest stimulus to the formation of individual opinion, and the dominance of the military spirit, the greatest enemy of individual opinion. We put forward these considerations because we shall probably hear a great deal in the next few years about the failure of German education. The tendency will be to attribute to it all the sins and follies of the Germans and their government, and to depreciate it as unreasonably as it has been extolled. We schoolmasters and educationists are, like other people, prone to magnify our office overmuch, and it is well occasionally to remind ourselves that a vast number of influences besides the school go to the forming of a nation's mind and spirit.

VOLUME I SEPTEMBER, 1915 NUMBER 7

EDUCATIONAL
ADMINISTRATION AND SUPERVISION

Development of Vocational Education in Indiana

A Reply to Professor Dewey's Articles in The New Republic

W. F. Book
Deputy State Superintendent in Charge Vocational Work

A FEW years ago a Japanese student of educational problems pointed out some of the advantages of our American decentralized system of education. He showed that our American cities and states were, in fact, so many experiment stations where different educational problems were being experimented with or tried out for the benefit of all. But this stimulation to experimentation and imitation of the example of others has its bad as well as its good side. When it comes to the matter of educational legislation or the development of new and important movements in education, the action of any state or city furnishes a precedent which is likely to influence practice and subsequent legislation in other states. The laws and action of any state in its development of important educational problems are, therefore, of national importance. This is why Prof. Dewey, in a recent article in the New Republic (See New Republic Feb. 20, 1915, pp. 71–73) felt free to discuss and criticize the Indiana Vocational Education Law and the work in vocational training carried on in Indiana.

It is partly for this same reason, but chiefly because Prof. Dewey has failed to set forth clearly and fairly the conditions and facts in regard to the Indiana example in the field of vocational education, that the writer feels called upon to explain the stand which Indiana is taking in the field of vocational training and to correct, so far as may be possible, any misapprehension that may have been created by Prof. Dewey's statements. We are too busy in Indiana trying to solve some of the many problems which a state-wide program for vocational instruction presents, and trying to get a few things done, merely to carry on discussions with people outside the state who may or may not be correctly informed in regard to our work.

Prof. Dewey says: "The main administrative features of the Indiana law are well considered, and fit it, in a general way, for imitation by other states considering action," but its educational provisions and the State Board's interpretation and administration of the law are characterized as wholly impracticable and educationally unsound. "The Indiana system," he says, "contains features which can hardly be explained except on the supposition that they have been dictated by the fears of theorists —and these features have been still further emphasized by the official interpretation of the law by the State Board of Education." The attempt of the State Board of Education to try to define clearly the specific problems in vocational training for which the law provides, and to point out the problems and work for which the law did not provide state aid, are characterized by Prof. Dewey as "Theory run mad" and he adds that "the law does not nor cannot work well, because it works against much of anything being accomplished."

These indictments, if one may judge from Prof. Dewey's discussion, seem to be inspired partly by the fact that the Indiana law did not include, as one of its provisions, the granting of state aid for the work of the general continuation school, which attempts to provide specifically for that group of young people now out of school and at work, who are employed in unskilled and juvenile pursuits, but chiefly by the fact that the Indiana Industrial Educational Commission and State Board of Education defined for themselves and the school people of the state, clearly and definitely, just what they meant by vocational training and the particular phases of the work which they proposed to aid with state money.

Professor Dewey devotes most of his second article to a discussion of the problem of the general continuation school (which, by the way, he does not distinguish from a Part-time school giving a trade extension course), and seems to conclude that, because the Indiana law does not provide state aid for this type of school, the whole law is a failure. He talks as if the general continuation school presented the most important problem in vocational education, and characterizes the motives of the Indiana State Board, when they merely call attention to the fact that this particular type of work was not state aided by the law, as an admission on their part of a blindness to this particular problem and its importance, or as an admission that this particular type of work should never be done, for he adds: "The intention of the law seems to aim at keeping as the life work of the wage-earner that upon which he has actually entered, even if he himself might wish to change." The fact that the State Board of Education has repeatedly stated in their bulletins that the work for which Professor Dewey pleads would later be taken up, and if necessary state-aided, when a start had been made with the lines of vocational training which were specifically provided for in the law, seems to have been entirely overlooked by our critic.

THE PROBLEM OF VOCATIONAL TRAINING

The facts are simply these: we do not have a single problem before us when we attempt to provide vocational instruction for a particular city or state, but a number of very specific and definite problems which must be squarely met and solved before vocational education can become a reality in a community or state. Even after an agreement has been reached as to what should be accomplished by vocational instruction we have barely started on our problem. There are many occupations or callings for which people must be prepared, and there are a number of more or less distinct groups of individuals whose particular needs must be met if we would succeed in providing vocational instruction for the entire community or state. The problem can not be solved all at once as the Greek philosophers attempted to solve the problems of nature and the universe. In spite of any theory or wishes which we may have to the contrary, we have at least the following groups of people to provide for:

1. A group of men and women now engaged in the various industrial pursuits, who have had little or no special preparation for the work in life that they have selected, or that they are by

necessity called upon to do. The needs of this group may, in part, be met by a general or a vocational evening school. Those who are engaged in permanent and skilled occupations may be given trade extension courses designed to make them more productive and efficient workmen in their chosen field of work. The Indiana Law provides for this group in its state-aided vocational evening schools. Those who are dissatisfied with their present work and who wish to find a more congenial or remunerative occupation and those who are deficient in general education must be helped in a different way. The group that is deficient in general education must be helped, if at all, in a general evening school which in Indiana is considered a part of the regular educational work of the city or local community. As for the other group, it still remains to be proved whether any one can with profit study a new trade—one he is not working at during the day—in the few hours which can be spent on it in an evening school. No successful plan for providing efficient vocational training for the men and women who wish to change their present occupation has as yet been successfully worked out unless they can attend an All-day Vocational school.

2. There is also a large army of young people between the ages of 14 and 25, who are out of school and at work, but who have had little or no preparation for either their present occupation or a permanent life calling. This group presents two very distinct problems to all who are actually working in the field of vocational education. Some of these young people are engaged in skilled occupations or permanent callings for which vocational training can be given in a part-time or continuation school of the trade extension type. If one may judge from Prof. Dewey's article he would hardly concede the existence of such a class. Yet in our study of the industrial conditions and need for vocational training in Hammond, we found that about 35 per cent. of the boys, between 14 and 16 (to say nothing concerning those between 16 and 25, whose occupations were not studied), belong to this group, and preliminary studies made in other cities of the state indicate that the per cent. belonging to this group in these cities is greater still. The needs of the group first mentioned can best be met by a Part-time class or school of the trade extension type, that is, by a school which gives instruction complementary to the skilled trades in which the young

people are engaged. The Indiana law provides fully for this group in its compulsory Part-time schools. The need of the rest of this group of young workers, between the ages of 14 and 25, those who are engaged in juvenile and so-called "blind alley" pursuits, must be met by a school of a more general sort—a Part-time school which continues their general education and gives them the kind of academic and general industrial or prevocational training which will enable them to intelligently choose a more skilled and remunerative occupation and which will, after they have been able to make such a choice, prepare them for efficient work in the permanent occupation they have selected. This is the problem of the general continuation school, which was not state-aided by the Indiana law, although cities and towns may provide this style of instruction as a part of their regular educational work.

3. But these are by no means the only groups of individuals whose needs must be met by a city or state which seeks to provide a complete program of vocational training for its citizens. There is a third group of individuals who must begin early in life, at 14, 16, or 18, to prepare directly for their life work, either in a vocational school or as an apprentice and worker at the trade. If this training is not provided in a school which fits them directly for a wage earring pursuit, they will continue to drop out of school and go to work without being prepared for productive citizenship, and without any means of receiving help from the industry, because of the way the industries of today are organized. The Indiana law provides fully for this group in its All-day vocational schools and departments.

4. A certain number of those now in our public schools will, of course, remain in school until 18 or 19, or until a high school course has been completed. A few of those who finish a high school course will go on to college and finally attend a technical or professional school where they will fit themselves for positions of leadership in these so-called "higher professions." For the few who may thus be able to prepare for a professional career, we have already fully and efficiently provided in Indiana in our Professional, Engineering, and higher Technical schools. For those who must go to work as soon as they are 14, or as soon as a high school course has been completed, we are developing All-day vocational departments and schools designed to prepare them specifically for a permanent calling in life.

Much confusion and waste has resulted because of our failure to discriminate clearly between these several problems. No matter how entertainingly or convincingly Prof. Dewey writes about the desirability of deferring vocational training until the boy is 18 or 20 years of age (see New Republic, May 15, pp. 42–43), we must provide for the mass of individuals belonging to these several groups if we would make public education truly democratic and would adapt it to the needs of our people. It is mere fiction to talk about deferring vocational training until our boys and girls are 18 or 20 years of age, when we have in Indianapolis alone 3,000 boys and girls between 14 and 16 years of age (not to mention those between 16 and 25) that the schools, as now conducted, are not reaching at all, because they have dropped out of school to go to work. These young people have had no vocational training whatever and can only be reached by some form of an All-day vocational school or by a Part-time school of the general or trade extension type. It is to be hoped that this number can, in the future, be greatly reduced by a further development of the pre-vocational work which we are carrying on in our regular schools. But at present they are here and the question before us is, what shall we do with them? How can we best help them to become better and more productive citizens, and how can the educational problems of a state be solved so that we may eventually eliminate this group?

It is not a mere theory which confronts us in Indiana, but the stern fact that we have these different groups of persons for whom vocational training should be provided and for whom nothing is at present being done to fit them for productive citizenship. With us it is not a question of dual or unit control of vocational education. We have adopted the unit system of control and are trying to extend and enlarge our system of public schools in such a way that *true vocational education* may be provided for all our people. With us it is a question as to what constitutes right and efficient vocational training in the different fields, a question of how vocational instruction can best be given, and a question of how vocational instruction should be correlated with the present work of our public schools.

As already indicated, the Indiana law is not, nor does it purport to be, a complete solution of the problem of vocational education. It does not provide state aid for educational work suited to all the groups mentioned above. It has selected certain lines of work to begin with and has tried to stimulate local communities, by the granting of state aid, to take up these particular lines of work. If our law had provided state-aid for all possible aspects of vocational education, we would have neither the time, money, nor teachers to even start the work. Some things must be taken up first and other things left. It is merely a question of deciding how and where to begin. The problem of vocational education can not be solved all at once. It must be taken up by piece-meal, and Indiana decided to start with the lines of work described below. We expect to add from time to time such other problems as the conditions and needs of individual cities and the state may dictate. When we have made more substantial progress with the work we now have in hand and have studied and experimented with some of the other important problems raised by a state-wide program for vocational training, as our law gives us ample opportunity and authority to do, we believe we shall be in a better position to know what extensions should be made to our law, and what additional work, if any, should be state-aided.

LINES OF WORK PROVIDED FOR BY THE INDIANA LAW

Provisions for Vocational Training. (1) The Indiana law provides in the first place for the organization and maintenance of All-day vocational departments and schools which aim to prepare young people directly and on a high plane for productive work in the shop, in the home, and on the farm. These schools will meet the needs of all who desire or must begin to prepare for their life work at 14 years of age, or at some time during their high school course. They are open to any one over 14 years of age who can profit by the instruction given.

(2) The law also provides state-aid for Evening schools for all workers desiring to make themselves more proficient in their chosen occupation and for all women over 17 years of age who desire instruction in home-making subjects. Not all the people in the state could be accommodated at once, and it was believed that better results would be obtained by beginning with those who already knew what they wanted and those who were getting some real shop work during the day, than to attempt to help

all by some sort of general cure-all course to which workers might be admitted regardless of what they were doing during the day. It is more than likely that a skilled occupation or trade can not profitably be studied in the few hours that may be spent in an Evening school unless the worker is actually at work in that trade during the day. Even if this should be possible, which has not yet been proven, such workers should at least be separately grouped to make their instruction efficient and helpful. They could not profitably be placed in the same class with those who are actually working at the trade and who are, for this reason, more advanced and who, therefore, differ widely in their needs. Since there was but a small amount of money available it was thought that greater and better results could be obtained if instruction were provided first for the group who already knew what they wanted—those who had the means of helping themselves by their daily work in the shop. It is for this group that state-aid was provided, not because the other group did not need to be helped, but because we can not do everything at once and because it was thought easier and more profitable to start with the trade extension work.

(3) Of the younger people who are out of school and at work, those 14 to 25 years of age, our law provides specifically for the group that could profit by trade extension work; that is, for indentured apprentices of every sort. The State Board if they desire can experiment with schools of the general continuation type, but here again it was evidently felt by the commission which studied the problem and framed the law that we should begin with those who already knew what they wanted and who could most profitably be helped by a few hours' instruction in a Part-time school. The problem of caring for these two groups is different. Both groups should be provided for, but they cannot be served by the same type of school or class.

The Indiana law has consistently restricted state aid to vocational work on the theory that all other instruction could be taken care of in the regular schools. If, after more extended experimentation with the problem of vocational education, we should find that state aid ought to be provided for the general continuation school, or for the pre-vocational work now being attempted by our regular schools, our law could very easily be extended so as to include these lines of work in its provision for state aid.

(4) The Indiana Law also makes provisions for Trade Extension work for farmers. In addition to the provisions for All-day, Evening, and Part-time vocational schools of Agriculture, a county agent of agriculture may be appointed for each county in the state, whose duty it "shall be to coöperate with Farmers' Institutes, Farmers' Clubs, and other organizations, to conduct practical farm demonstrations, Boys' and Girls' club and contest work, and other movements for the advancement of agriculture and country life, to give advice to farmers on practical farm problems, and to aid the county superintendent of schools and teachers in giving practical aid in agriculture and domestic science." The state pays half the salary of all such agents.

Provisions for General Industrial or Pre-Vocational Work. The law also requires that elementary agriculture, elementary domestic science, and elementary industrial arts shall be taught in the grades of all town, township, and city schools, and that instruction in these subjects be continued in all city, town, or township high schools, as the State Board of Education may direct. The course of study and minimum requirements in all these practical arts subjects are fixed by the State Board of Education.

The first or preparatory step in the process of providing vocational training is, therefore, to be taken in the regular school. This work in practical arts may, therefore, be developed by the State Board of Education in such a way that it will serve as a real vocational finding and try-out course, constituting a necessary preliminary step to real vocational training. It may be so planned and conducted (for the Board has complete control and charge of it even to fixing the training and qualifications of the teachers) as to develop the sort of industrial intelligence for which Prof. Dewey pleads. It should, therefore, help us to solve the problem of the general industrial school, and might, if rightly developed, make the work of the general Continuation school unnecessary. Here is an opportunity for the school men to connect up the work of the regular schools with vocational education proper in a truly genuine and fundamental way. But this foundational or pre-vocational work should not be confused with vocational instruction as such. It is just as important and necessary as the work of a vocational school, but the aim and work of the courses is different. The vocational departments and schools come as a distinct extension and enlargement of our present system of public schools, not as a modification *of* or a substitute *for* any part of their present course and work. The chief point for which Prof. Dewey contends is, therefore, provided for by the Indiana law and is being taken care of by this pre-vocational work which we are attempting to develop in our regular schools, just where Prof. Dewey claims such work should be done. Our problem in this field, as in the case of the more specialized vocational training, is one of *ways* and *means*, one of getting the right sort of work done.

Is the Indiana Law Impracticable?

Prof. Dewey states that nothing much has or can be done under the Indiana Law. After discussing the fact that the Indiana law did not provide state aid for a school designed to meet the needs of those young people who are engaged in unskilled and juvenile occupations and those who could not yet wisely decide upon a life calling for which to prepare, Prof. Dewey says: "Yet these features are of comparatively slight importance compared with the inherent impracticability of the law. The law might be suitable," he says, "for New York, Chicago, Philadelphia, and other large cities, but in Indiana it may be doubted whether there is more than one city in the state where much use can possibly be made of the law"; and he adds: "It is dollars to doughnuts that if the leading school men of Indiana had been systematically consulted before the existing law was framed, and if what they were actually doing and what they would like to do had been investigated, the result would have been a law which would almost immediately have been taken advantage of by ten or a dozen of the larger cities."

Now, the facts happen to be these: The school men of the state were systematically consulted by the Commission appointed to study the conditions and needs for vocational education in Indiana. This Commission did just what Prof. Dewey recommends as a desirable course of procedure in passing an important educational law. Two years were devoted to a study of the conditions and problems in the state before a law was proposed to the Legislature. The Indiana Industrial Commission was composed of prominent labor leaders, professional, school, business, and manufacturing men. They held repeated conferences with representative people in all parts of the state and submitted their findings and each section of their recommendations to business man, trade workers, and the school men of the state for their criticism and approval before the final draft of their law was presented to the Legislature.

Whether or not this law has proved impracticable must be judged from the results that have been achieved. Since the provisions of the law pertaining to vocational instruction went into effect last September, 25 towns and cities ranging in population from 780 to 300,000 (towns and cities representing all kinds of Indiana problems and conditions) have availed themselves of its provisions for *vocational* instruction. All types of schools provided for by the law—All-day, Part-time, and Evening vocational schools, as defined in the law—have been organized and conducted in conformity with the rules and regulations adopted by the State Board of Education for the organization and conduct of vocational schools. Seven thousand five hundred and twenty-five different students were last year enrolled and instructed in these vocational schools.

The fact that we have sharply defined just what we are attempting to do and have attempted to make clear the particular problems and work that should be attempted in a given community, under the law, has, therefore, not discouraged our people from taking hold of the work. On the contrary, the results of our first year's experience, while far from what we should like them to be in quality, are far better than they could possibly have been if we had not defined definitely for ourselves what we were attempting to do. The Indiana law has, in fact, worked far better than Prof. Dewey thought such a law could work, for, instead of ten or a dozen cities availing themselves of its provisions, as he thought might be the case if the law had been drawn under most favorable conditions, we have had 25 communities making a start with a type of instruction which they had never before undertaken and which, in most cases, had not even been thought of by them.

And this is to say nothing about the results that have been attained from the provisions of the law pertaining to county agents of agriculture, or the practical arts work which the law requires all schools to give as a part of their regular course of instruction. These features of the law have been in operation for two years. Thirty-seven county agents of agriculture have been appointed for as many counties.*

One hundred and fifteen thousand students in the regular schools studied elementary agriculture, household and industrial arts last year (more than a fifth of all the students enrolled in the public schools of the state). Thirty thousand pupils are this summer following up the instructions in agriculture and home-making which they received as a part of their regular school course last winter, by actual farm and home work. The work of most of these pupils is being carefully supervised during the summer months by trained teachers hired for the entire year, who are assisting the pupils with their work while they are actually on the job. It is our purpose to make all this practical arts work of a strictly practical and pre-vocational nature, giving the pupils a true insight into the industries studied and some real practice in these fields of work so that they may be able to acquire real industrial intelligence concerning these fundamental occupations and, if possible, help them to select a life calling for which they should later prepare. It remains to be seen how successful we shall be with this preliminary step in vocational training. Many think that the pre-vocational work, in order to be successfully and efficiently done, must be taken up as a special problem in some sort of a general industrial school. The fact that it is being undertaken in our regular schools insures that the vocational work will be vitally related to the work of the regular schools.

Professor Dewey also states "that it was a great mistake that the Indiana Law did not give the State Board of Education large discretionary powers in the matter of interpreting and administering the law." The fact is that the Indiana State Board of Education was entirely reorganized and made more of a representative body and given complete charge of the organization and development of all the vocational and pre-vocational work. Aside from the fact that the law makes plain the particular work that was to be state-aided and the parts that should be taken up first, the State Board was left absolutely free to develop the work and make such investigations as they saw fit to make. "The American habit of passing new laws and then leaving their administration to look out for itself" was, therefore, not followed in drafting the Indiana Law. As for the desirability and usefulness of a body of "experts engaged in continuous investigation of both local schools and industries, a body who should influence public opinion and make suggestions and institute experiments" which Prof. Dewey recommends, he might be glad to learn that this is actually being done in Indiana and that full provision for such work was made in the Indiana law. A preliminary study of the occupations and industries of the state, as a whole, has already been made and was published before Prof. Dewey wrote his articles. This is being followed by a more careful study of local conditions and needs in particular cities The idea which Prof. Dewey commends as so highly desirable in developing a program for vocational education is, therefore, the very idea upon which the Indiana State Board of Education is attempting to construct its scheme for vocational training.

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* For a more detailed report of the work accomplished in Indiana, see First Annual Report on Vocational Work, prepared by W. F. Book and published in the Twenty-seventh Biennial Report of the Department of Public Instruction, Indianapolis, Ind., Dec. 10, 1914.

The provisions for county agents of agriculture Prof. Dewey commends very highly. "By all accounts," he says, "the thing in the Indiana Law which has worked best is its provision for agricultural education. With respect to this, there was no organization of theorists to influence the law and more freedom was allowed. Its provision for county agents is one which might well be imitated by other states providing for industrial education."

Now, this provision of the law has, like all other sections of the law, worked well thus far, but it is not at all clear how this fact supports Prof. Dewey's contention that vocational education should be turned over to the public schools and made a part of their regular work. The county agents of agriculture in Indiana have no connection with the public schools whatever, except as the county superintendent and state authorities may desire to avail themselves of their service. Their chief work is to provide trade extension instruction for the farmers of their respective counties, as the quotation from the law already given clearly shows.

It is to be regretted that Prof. Dewey should feel called upon to thus discuss and criticize the Indiana work and law without informing himself more thoroughly in regard to the facts.

IS THE INDIANA VOCATIONAL LAW EDUCATIONALLY UNSOUND?

Prof. Dewey's contentions, however, go much deeper than the discussion thus far indicates. He objects, if I understand him, to any scheme of public education or training which aims to prepare specifically for a definite calling in life; or he would at least restrict all such instruction until the pupils are 18 or 20 years of age. He fears that such training will predestine workers to certain social levels and expresses the fear that the so-called "interests" have designs upon the control of our educational machinery. (See New Republic, May 15, 1915, p. 42.) After discussing the inadequacy of the reasons thus far advanced for making industrial training an organic part of public education and discussing the German example in the field of vocational education, he says: "There is grave danger that holding up as a model the educational methods by which Germany has made its policy effective will serve as a cloak, conscious or unconscious, for measures calculated to promote the interests of the employing class," and, after pointing out that many manufacturers in this country had already started schools for vocational training, he adds: "It is natural that these employers should be desirous of shifting the burden of this preparation to the public tax levy. There is every reason why the community should not permit them to do so." (See New Republic, December 19, 1914, p. 77.)

From this one might reasonably infer that Professor Dewey does not believe that it is the function and duty of the state to provide vocational training for its citizens. In his several articles he has touched upon a number of important questions pertaining to vocational education that should be discussed. (1) Is vocational education a function and duty of the state? (2) Is vocational training, as such, really narrowing and belittling? (3) Does vocational education actually make for a "broader, richer, and more effective program of public education"? (4) Where and how can vocational education be most effectively given? (5) When should vocational training begin? Can it or should it be postponed until the pupil is 18 or 20 years of age, as Prof. Dewey suggests? (6) Just how should real vocational training be related to the regular work of the public school?

Lack of time and space prevents the writer from entering into a discussion of these questions, save as they may have a direct bearing on the Indiana situation and work. It should, in the first place, be pointed out that an education which aims to fit an individual for a definite occupation or calling in life is by no means such a narrowing and belittling process as Prof. Dewey's statements indicate. Every occupation, if directly studied and properly prepared for, involves an enlargement of the individual's field of vision and activity in many directions. Science and law enter into every line of work no matter how simple and will incite all capable of its appreciation and use to a mastery of such parts of it as they may find helpful and as they may be able to comprehend or understand. When thus given an opportunity to acquaint themselves with such scientific facts and laws in the process of learning an occupation or trade, all workers have a chance of being reached and helped, while if the more systematic and logical method now generally practiced be followed only a select few could ever have a chance at learning anything about such things. On the other hand initiative, originality, and the ability to marshal one's resources and knowledge and to bring them to bear on a given problem or situation, which Prof. Dewey recommends so highly, can perhaps best be developed by working at definite and concrete problems, such as are encountered in the mastery of any specific occupation or trade. Vocational education or training for a specific calling may, therefore, be expected to lead to much better results along all these lines than general education, because in a vocational course one encounters daily just such definite situations and problems as will call this forth, and the student is spurred on continually by the life motive to succeed and to produce, while in a general course these motives are absent. There is nothing but mental curiosity to spur him on to achievement. Many educators are, in fact, coming to feel that educating a man or woman for a specific calling in life is the very best way to educate them; that it is really impossible to educate a man or woman apart from a calling; that early education for a calling will lead to better educational results than the path of general education because it is a more natural and real procedure, and is the only means we have for reaching the majority of the working classes.

We are also coming to feel that the wealth of a state depends, not merely on the natural richness of its soil, and its mineral products, but on the men and women who turn these things to account; that its present and future citizens must be better trained; that they should be educated not only to appreciate and understand the work and achievements of other men and times, but by education and training be made skilled producers in some useful and important field of human endeavor. We are coming to feel that it takes a skilled worker and producer to make a good citizen, and that every citizen of the state should be prepared by education and training to do some useful form of work. We are coming to see that until this has been achieved the individual will not be able to make his own life of real value to himself, or himself of service and worth to society.

Whether or not we believe that the state should provide vocational training depends, I take it, on what we mean by this term. If by vocational education we mean a shallow trade training devised merely to fit people for serving the industries, no one would, I think, be in favor of making it the duty of the state and public school to provide it. If, on the other hand, vocational education be so conducted that it will fit young people and all workers for productive and serviceable citizenship on the highest plane possible for those whom we are trying to help, and if this education or training need not be narrow and devoid of general value, as has been suggested, if it is a good means, in fact the only means whereby most workers can reach a higher stage of culture and citizenship, it must be regarded as a matter which the community and state, as a whole, should foster and develop. It is not a problem of merely helping the industries, but a matter of finding the best way of helping our future and present citizens. Everybody who understands what vocational education means or tries to accomplish believes in it. It is not a question of whether or not it should be given. It is a question of how the desired results can best be obtained.

Professor Dewey argues that "a complete separation of trade education and general education would have the inevitable tendency of making both kinds of training narrow, less significant, and less effective then they would be if the materials of traditional education were reorganized, so as to utilize the industrial subject matter—actual, social, and scientific—of the present day environment." We in Indiana do not believe in a complete separation of general and vocational education, as has already been explained, but neither are we willing to confuse the purpose and work of a vocational school or course which aims to prepare for a definite occupation or calling in life, a school where a vocational motive is present to determine the subjects to be studied, the organization, methods of teaching, and work of the school, with the work of a school or course where such a vocational or life motive is not present to direct the course of instruction and work of the school. The aim of each of these schools is different. In the vocational school we aim to prepare directly for a specific occupation or calling in life, the same as in a law, medical, or engineering school. In our regular schools, as they have been conducted and are at present being conducted, the aim is something else.

The preparation for an occupation or calling in life should, of course, take place on the highest possible plane. The right sort of industrial intelligence should be developed, as far as possible, but in a vocational school the specific purpose or aim of the school must not be blurred or lost sight of. Those things must be eliminated from the course which do not help us to get where we want to go. It is for such reasons as these and because the vocational school represents a line of work which we, in Indiana, had not attempted to do at all before our law was passed, that we look upon these departments and schools as an extension or enlargement of our system of public schools, and have insisted that the work of these departments and schools be sufficiently separated from the regular school work to insure efficiency and economy in results. These vocational departments and schools do not constitute another school system, but merely represent a distinct addition to our present school machinery, an addition which makes it possible to do a line of educational work which we in Indiana had not undertaken before.

Professor Dewey is profoundly interested in any program of educational work which will give us "a broader, richer, and more effective program of public education," but he professes that he cannot see how vocational education as it is now being developed in Indiana and some five or six other states really contributes to this end. Vocational training if it is made truly effective and is provided for *all classes* of workers and producers, instead of being provided merely for the few who are able to continue their general education until they can enter a higher technical or professional school, as is at present the case, will greatly extend the work and influence of our public schools. For if we add to the educational work which we are now doing the added task of giving efficient vocational instruction to present and prospective workers in every field of productive work, we will thereby not merely improve the present work of our public schools, but will more than double their work and usefulness. They would then not only give the necessary basis for all forms of useful service and work, but would provide, in addition, instruction and training which would fit all groups of people for some form of productive work. If then this vocational training could be wisely administered so that our young people would be trained or educated in accordance with their capacities and talents, no one can deny, I think, that such a program, such an extension of the work of our present system of public schools, would actually make for a "broader, richer, and more effective program of public education." For all people would then be reached and they would be helped more nearly in accordance with their actual needs.

Prof. Dewey argues that such training should be deferred until the students are 18 or 20 years old, so that they could prepare for their life work on the highest plane. This would, of course, be desirable if it could be done, but the facts are simply these: Not all people can fit themselves for positions of leadership in the occupations which they select or must follow as a life calling. All can not or do not spend so many years in getting ready to start a vocational course. Most people feel that they must begin either to work, or to prepare definitely for their life work, at 14 or 16 years of age. The important thing to do would, therefore, seem to be to try to provide help for all classes and groups of people, to try to meet the situation as it is, and to reorganize our school machinery in such a way that each individual might be given an opportunity to mount as high in his life calling or work as he can.

Prof. Dewey, like many other students of education profoundly interested in our educational development, has simply failed to comprehend the point which men interested in vocational education have been trying to make, namely: That efficient and economic results in this field can not be attained by the wholesale and general methods which are so universally used in educational work today, but that progress must be made by taking up the particular problems involved and solving them one at a time according to the best methods that can be devised. He writes as if he believed that efficient results in vocational training could be obtained by a school or course which attempts to do everything in general and nothing in particular. As a matter of fact he is talking most of the time about general instead of vocational education. For, after pointing out and discussing some of the things which industrial education should accomplish, he adds: "The facts cry out against any trade training which is more than an incidental part of any general plan of industrial education. They speak for the necessity of an education whose chief purpose is to develop initiative and personal resources of intelligence."

The argument against making the vocational school purely theoretical, its work general, aimless, and inefficient, the danger of confusing the aim, methods, and work of the vocational school with that of the regular school, which is at the bottom of all attempts to sharply define the aim and methods of vocational training and which is largely, if not entirely, responsible for all attempts which have been made to separate vocational training from so-called general education, so that the true purpose of vocational training may not be lost sight of or obscured, this point for which workers in the field of vocational education in this country as well as in Europe have all contended and labored, the point which has prejudiced business men and the true friends of vocational education against the public school man as an administrator of vocational training and filled others with fear and misgivings lest efficient vocational education should not be provided—this point has been so well stated by Prof. Dewey himself in his book "Moral Principles of Education" that I desire to restate it here in his own words:

> "I am told," he says, "that there is a swimming school in a certain city where the youth are taught to swim without going into the water, being repeatedly

> drilled in the various movements which are necessary for swimming. When one of the young men so trained was asked what he did when he got into the water, he laconically replied 'sunk.' The story happens to be true, were it not, it would seem to be a fable made expressly for the purpose of typifying the ethical relationship of school to society. The school can not be a preparation for social life, excepting as it reproduces, within itself, typical conditions of social life."

It is to be regretted that Prof. Dewey can not see the full application of this important principle or law in the field of vocational education.

We, in Indiana, are simply trying not to organize swimming schools on dry land. We are trying to work out a plan whereby we may be able to provide efficient vocational education for all of our people. We are trying to connect up this new line of work helpfully and directly with the work now being done in our public schools. But we also see that the way to fit an individual efficiently and economically for a particular occupation or trade is to prepare him directly for that occupation or trade and not for something else. We have seen no signs of the so-called "interests" wanting to get control of our public schools. On the contrary business men, laboring men, and school men of the state are coöperating and working shoulder to shoulder trying to bring to the people of Indiana a broader and richer, but more effective, system of public education. We, in Indiana, can not see how sharply defining our purposes and aims in the matter of vocational training and keeping clearly in mind the goal which we desire to attain is anything but a most helpful and necessary device for assisting us to get where we wish to go.

Causes of Failures Among Teachers

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DURING the winter of 1913–14, the writer sent out a letter and questionnaire to three hundred school men in the various parts of the United States, especially to superintendents of city schools. No supervisor was included who had more than one thousand nor less than eight teachers under his supervision. One hundred forty replies were received from that number of different school systems. No report came from any educational institution employing more than two hundred twenty-five and only a few from schools enrolling more than one hundred teachers. In general, the smaller schools responded more freely than the larger ones. The data secured furnish the basis for this article.

Five out of the one hundred forty replying, or 3.57%, did not have a definite idea of the meaning of the term "failure." This is a small per cent., to be sure, but why should any one's mind be hazy in regard to the significance of that word? When applied to other vocations there is no vagueness in the minds of people in regard to what the term denotes. A groceryman breaks up in business; a bank is compelled to close its doors; the income on a farm does not cover the cost of production and the owner is forced to sell it. By common consent the merchant, the banker, and the farmer are said to have failed. A man is a failure in any undertaking when he falls so far short of doing the thing he purposes to do that he is no longer able to continue his work, or, to use a commonplace expression, is put out of business. To be successful a man must be able to adapt himself to the conditions with which he is confronted, or he must have the power to adapt the conditions to himself. If he does neither, he is doomed to failure. No absolute standard can be fixed that people in any calling can be expected to measure up to. Success or failure is relative and is dependent upon conditions and circumstances. When a teacher does not measure up to the requirements of a community to the extent that he is dismissed during or at the end of the school term, he has failed, although the school board has had recourse to the milder method of asking or hinting at his resignation. This criterion school men accept, our correspondents included, as is indicated by their reports.

Of the one hundred forty reports twenty-four had to be rejected. The remaining 116 represented that many school systems, employing 4848 teachers and had during the two years 270 who failed. This would be 135 a year or 2.77%. The following table gives the failures grouped according to the number of teachers in the corps:

TABLE I.

Distribution of Failures According to Number of Teachers Employed.

Schools Grouped.

No. of Teachers	No. of Schools	Total No. of Teachers	No. of Failures in 2 yrs.	No. of Failures in 1 yr.	Per cent. of Failures
9– 19	18	253	39	19.5	.0770
19– 29	27	630	51	25.5	.0405
29– 39	24	793	54	27	.0340
39– 49	15	645	44	22	.0340
49– 59	8	474	24	12	.0253
59–109	18	1217	46	23	.0189
109–159	6	854	12	6	.0070
9–159	116	4866	270	135	.0277

In the above tables the rate per cent. is calculated with the number of failures for one year as the percentage and the whole number of teachers employed by the schools of the same size reporting as the base.

From Table I, it can be seen that in general the per cent. of failures varies inversely with the number of teachers employed.

Careful selection of teachers was given by a number of correspondents as the reason for having few or no failures. This is probably generally accepted as the greatest factor in reducing the number. Since the larger the city the more the choice of teachers is left in the hands of the superintendent, who by virtue of his education and experience is a better judge of who "will make good" in the schoolroom, it stands to reason that the largest schools, as the table shows, should have the smallest number of failures.

One way to measure teaching efficiency is to evaluate the cause of failure among teachers. Three investigations of causes of failure have recently been made at the University of Illinois. In each instance failure was defined to mean that the teacher was dismissed. One of these investigations collected facts relating to 270 failures in 116 school systems. When the failures were distributed with reference to the number of teachers employed in the system, they showed that the per cent. of failures varies inversely with the number of teachers employed. In other words, the smaller the place the greater the percentage of failures. For example, in school systems having between 9 and 19 teachers, nearly 8 out of a hundred fail; in school systems having between 39 and 49 teachers, 3 out of a hundred fail; in school systems having more than one hundred teachers, only *one* in a hundred fail.

TABLE II.

The Distribution of Failures in Elementary Schools According to Sex and Number of Teachers Employed

Schools Grouped

(1) No. of Teachers in School	(2) No. of Men Failures	(3) No. of Women Failures	(4) Total No. of Failures	(5) Men Failures Per Cent. of Sex	(6) Men Failures Per Cent. of Grand Total	(7) Women Failures Per Cent. of Sex	(8) Women Failures Per Cent. of Grand Total
9–19	2	19	21	9.08	1.24	13.68	11.78
19–29	..	28	28	.....	.....	20.16	17.36
29–39	12	30	42	54.48	7.44	21.60	18.60
39–49	1	17	18	4.54	.62	12.24	10.54
49–59	1	10	11	4.54	.62	7.20	6.20
59–69	5	10	15	22.70	3.10	7.20	6.20
69–79	..	7	7	.....	.....	5.04	4.34
79–89	..	1	1	.....	.....	.72	.62
89–	1	17	18	4.54	.62	12.24	10.54
Grand Total	22	139	161	.....	13.66	.....	86.34

(Table II gives the schools in groups covering ten consecutive sizes, except the last group, which includes all enrolling more than eighty-nine teachers.)

In the above table, column (1) gives the number of teachers employed in the schools that reported failures. Column (5) gives the per cent. that the men failing in the different schools is of the whole number of men failing, and column (6) the per cent. of the whole number of failures; e. g. in schools employing from 9 to 19 teachers two men failed, which is 9.08% of 22, the number of men failing, and 1.24% of 161, the whole number of men and women failing Columns (7) and (8) state the per cent. of women relative to the same fact. This table indicates that with reference to the distribution of failures there is no correlation between sex and the number of teachers employed in a school. In the elementary schools as a whole, however, the men seem to have slightly the advantage of the women. Of all of the failures in the grades the former numbered 13.36% and the latter 86.34%. Of course, no definite conclusion can be based on this fact alone, since we do not know the number employed of each sex. But in the North Central States* the section from which most of the reports were received, 18.6% of the grade teachers were men and 81.4% women. While the ratio of grade teachers employed in the above schools may not be the same, there is not likely to be enough difference to invalidate the conclusion that a relatively smaller per cent. of men than of women fails in the grades.

TABLE III.

THE DISTRIBUTION OF FAILURES IN THE HIGH SCHOOL ACCORDING TO SEX AND THE NUMBER OF TEACHERS EMPLOYED.

(1) No. of Teachers in School	(2) No. of Men Failures	(3) No. of Women Failures	(4) Total No. of Failures	(5) Men Failures Per Cent. of Sex	(6) Men Failures Per Cent. of Grand Total	(7) Women Failures Per Cent. of Sex	(8) Women Failures Per Cent. of Grand Total
9–19	5	14	19	11.65	5.95	34.16	16.66
19–29	7	13	20	16.31	8.33	31.75	15.47
29–39	6	3	9	13.98	7.14	7.32	3.57
39–49	11	4	15	25.63	13.09	9.76	4.76
49–59	6	1	7	13.98	7.14	2.44	1.19
59–69	4	2	6	9.32	4.76	2.88	2.38
69–79	..	1	1	.....	.....	2.44	1.19
79–89	1	...	1	2.33	1.19	......	......
89–	3	3	6	6.99	3.57	7.32	3.57
Grand Total	43	41	84	.....	51.19	.....	48.81

The above tables are arranged like II except that they deal with the high school. Column (1), however, does not give the number of teachers employed in the high schools, but the entire number of teachers in the schools. Our reports do not give data in regard to the number of teachers that are elementary and those that are secondary. According to Table V, 51.19% of the failures in the high schools are men and 48.81% women. The secondary schools of this section of the United States* enroll 55% women and 45% men teachers. In the high school, therefore, the women seem to have the better of the men, although not very decidedly. This condition might well be expected. To be sure, all vocations and avocations are alike open to both sexes. Still, of the women inclined toward intellectual pursuits the vast majority have always entered the teaching profession, whereas the ministry, medicine, the law, the commercial world, and various other occupations that call for the use of mental power more than of muscle have ever drawn heavily on the supply of masculine brain. Brain, like any other commodity, tends to drift into the dearest market, and, since the teaching profession pays less than any other professions and leading vocations, the schoolroom, and especially the high school, serves as a stepping stone for a large number of teachers. Then, too, the grades serve as a training school for women who later teach in secondary schools. This is not so much the case with men, since there are comparatively few of them in the grades. For these reasons there are relatively more inexperienced men than women in the high school, and lack of experience, as we shall see later, is a great pitfall to teachers.

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* Report of United States Commissioner of Education Vol. II, 1911.

The medians in the above table are fairly close to the averages, which furnishes internal evidence that the failures reported are typical. The difference in the two factors is largely due to the few who failed after long years of experience. Dropping the oldest teacher from the men failures the average is reduced to two and fifty hundredths and the median is raised to two and twenty-one hundredths, a small variation. Removing the seven oldest teachers among the women failures the average of experience drops to two and ninety-seven hundredths and the median rises to two and forty-eight hundredths and the average two and thirty-eight hundredths. This is nearly an agreement of the two factors.

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* Report of United States Commissioner of Education, Vol. II, 1911.

TABLE IV.

The Distribution of Failures in the Elementary Schools, According to Sex, Experience, and the Grade Taught.

Men

Grade	No. of Failures	Range of Failures	Median	Average	Rank
I.					
II.					
III.					
IV.	1	4	4	4	4
V.	1	4	4	4	4
VI.	4	½–12	5.5	5.87	2
VII.	1	3	3	3	4
VIII.	4	1–4	1.6	1.5	2
Ward Prin.	7	1–8	2.1	2.35	1
Total.	18	½–12	2	3.16	
Women					
I.	14	1–20	5	8.71	6
II.	20	1–30	3.3	6.00	2
III.	17	¾– 7	2	2.57	3
IV.	17	½– 8	2.4	2.99	3
V.	21	1–10	2	3.33	1
VI.	14	½–42	2.75	4.96	6
VII.	15	½–10	1.14	2.15	5
VIII.	9	1– 8	2.4	2.55	8
Total.	127	½–42	2.36	3.81	

Men and Women

[Grade	No. of Failures	Range of Failures	Median	Average	Per Cent. of Grand Total of Failures	Rank
I.	14	1–20	5	8.71	9.65	7
II.	20	1–30	3	6.00	13.79	2
III.	17	¾–7	1.5	2.57	11.72	5
IV.	18	½– 8	2.4	2.99	12.41	3
V.	22	1–10	2.33	3.36	15.17	1
VI.	18	½–42	2.5	5.17	12.41	3
VII.	16	½–10	1.28	2.2	11.03	6
VIII.	13	1– 8	2.25	2.23	8.96	8
Ward Prin. . . .	7	1– 8	2.1	2.35	4.83	9
Total.	145	½–42	2.36	3.66		

(In the above table range means the compass between the two extremes of the failures, for instance, the range of one-half to twelve means that the failures had from one-half to twelve years of experience. The median is the number of years of experience above and below which is the same number of failures.)

From Table IV we may conclude that sex has very little, if anything, to do with the number of years of experience had by the failures, but it seems to make a difference in regard to the grade taught. Only two men were reported as having failed below the sixth grade and only seven below the eighth. This is largely due, of course, to the fact that comparatively few men enter the lower grades. At all events, it is easy to see that the men are gradually deserting the elementary schools.

The fifth grade ranks first in the number of failures. This fact supports the generally accepted notion that No. 5 is hard to teach. The second grade comes next in order. The fewest failures are among the ward principals. This is to be expected since the teachers for that position are selected from the strongest grade teachers. The ward principal, however, nearly always teaches one of the higher grades, generally the eighth. For this reason the number of eighth grade failures is too small. The proper apportionment would, no doubt, give the eighth a greater number of failures than the first, and the latter would rank lowest in the scale of failures. These results closely parallel the data obtained by Ruediger and Strayer in their investigation into the Qualities Merit in Teachers.* Looking at the question from the positive side they found that 28% of the best teachers in the grades were found in the first grade and 19% in the eighth, a total of 47% in the two extreme grades. This situation is easily accounted for. School boards and superintendents almost invariably exercise greater care in the selection of teachers for those grades, and, as a rule, offer higher salaries to attract stronger teachers to those grades.† When school boards and the public in general come to realize that there is no place anywhere in the school for the poor and underpaid teacher conditions will improve.

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* Journal of Educational Psychology, May, 1910.

† See Article of Ruediger and Strayer above referred to.

TABLE V.

The Distribution of Failures in the High School according to Sex, Experience, and Subject Taught.

Men

Subject	No. of Failures	Range	Median	Average	Rank
Latin	3	1–4	3	2.66	6
English	4	1–1½	1.17	1.12	5
History	7	1–10	4	6	4
Mathematics	9	1–20	2.12	4.11	2
Science	10	½– 2	1.33	1	1
Manual Training	9	½– 7	2	2.16	2
Domestic Science					
German					
Total	42	½–20	2.99	2.72	

Women

Subject	No. of Failures	Range	Median	Average	Rank
Latin	7	1– 4	1.5	2	4
English	21	1–10	2	2.78	1
History	9	1– 3	1.5	1.55	2
Mathematics	8	1– 3	1.5	1.87	3
Science	7	1– 8	1.5	2.42	4
Manual Training					
Domestic Science	3	2– 3	2	2.33	6
German	1	20	20	20	7
Total	56	1–20	2.35	2.10	

Men and Women

Subject	No. of Failures	Range	Median	Average	Per Cent. of Grand Total of Failures	Rank
Latin	10	1– 4	2	2.2	10.20	5
English	25	1–10	2.44	2.40	25.52	1
History	16	1–20	2.60	3.50	16.35	4
Mathematics	17	1–20	2.50	2.82	17.35	2
Science	17	½– 8	1.5	1.73	17.35	2
Manual Tr.	9	½– 7	2.0	2.16	8.08	6
Domestic Sc.	3	2– 3	2	2.38	2.69	7
German	1	20	20	20	.90	8
Total	98	½–20	2.25	2.35		

The above table is arranged like Table IV. The close agreement between the median and the average is very close throughout the table, except where the average was unduly raised by one or two failures of extremely long experience. For example, removing the oldest failure among the men teachers of mathematics, the average experience of the failures would drop to 2.16 years. Dropping the oldest history failure would reduce the average to 3.67 years. Leaving results as they are, however, the agreement between the medians and the averages in the totals is very striking, thus proving that the data are typical and reliable.

According to Table V by far the most failures occur among the teachers of English; Science, Mathematics, History, Latin, Manual Training, Domestic Science, and German follow in the order given, more than one-fourth of all the failures in the high school being charged to English. These conclusions correspond closely to the results obtained by Boyce in his investigation into the Qualities of Merit in Secondary Teachers.* He found that, with reference to the number of poor teachers, the high school subjects come in the following order: Modern Language, English, Science, History, Mathematics, Latin. Our data include only one failure in Modern Language; namely in German, and that teacher had taught for twenty years in the same community and was dropped for that reason. We are, therefore, hardly warranted in making any comparison between the results of the two studies in regard to Modern Language. In regard to the difference in the other subjects it may be said that Boyce's investigation was made on a slightly different basis. In his reports the teachers of an entire corps were ranked in order of their relative merit, those ranked last being regarded as poor teachers. Our correspondents were asked to report the failures The latter seems to us a more definite standard, for one may not be as good a teacher as some one else in the same corps, and still not be a poor teacher, or one with whose services the community would care to dispense. Then, too, the poorest teacher in one community may be as good or even better than the best in another. But, in general, a failure is a poor teacher, at least in that particular position. The difference in the basis of investigation may account for the slight difference in the results of the two studies.

One reason for a greater number of teachers failing in English than in Latin is that there are a greater number of them. Another is that the Latin teachers in general have had special training, for hardly ever any one undertakes to teach Latin unless he has prepared himself for that line of work. Special teachers of various other subjects are often pressed into service as teachers of English. In the third place Latin is generally taught as a science while English is taught both as a science and an art. The greater range in the subject matter is a fourth reason for English being so much harder to teach. But probably the most potent reason is that the public, the school board and superintendent included, are better judges of efficient work in English.

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* Journal of Educational Psychology, March, 1912.

The relative number of men and women failing in the different subjects varies, but no valid conclusion can be based on that fact, since we do not know how many men and how many women are engaged in teaching each subject. It does not seem that sex

TABLE VI.

Distribution of Failures on the Basis of Grade and Subject and Experience.

Experience

Grade	1	2	3	4	5	6	7	8	9	10	11	12	13	14
I.	3	2		2		1	1					2		
II.	6	3	2	3	2				1					1
III.	7	3	2					2			2			
IV.	7	5	1	3				1				1		
V.	9	4	6	2	1					1				
VI.	6	4	4		1			2				1		
VII.	9	1	1	3				1		1				
VIII.	6	3	1	1	1	1		1		1				
Kindergarten .				4										
Mu. S. Dr	4	2												
Ward Prin. . . .	5	1						1						
Total	62	26	19	18	5	2	1	8	1	3	2	4	0	1
Per Cent	.38	.16	.12—	.11	.03	.01+	.006+	.05	.006+	.02—	.01—	.025	.00+	.006

Grade	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Above 30	Total
I.	1																	12
II.						1					1							20
III.						20										1		19
IV.																		18
V.						1												24
VI.																	1	19
VII.																		16
VIII.																		16
Kindergarten																		4
Mu. S. Dr. . .																		4
Ward Prin. . .																		7
Total.	1	0	0	0	0	5	0	0	0	0	1	0		0	0	1	1	161
Per Cent. . . .	.006	.00	.00	.00	.00	.03	.00	.00	.00	.00	.006	.00	.00	.00	.00	.006.	.006	

has anything to do with efficiency in teaching any particular subject or subjects, since the difference in the number of men and of women failing in any one is so small, except in the lines of work peculiarly adapted to one sex or the other, as domestic science to women and manual training to men. The difference in the failures of English is probably no greater than the difference in the relative number of men and of women teaching the subject.

Tables VI and VII prove clearly and conclusively that experience is important in determining the success of a teacher. In the grades 38% and in the high school 42% of the teachers fail during the first year and 77% and 94% respectively during the first four years. Boyce, in his study above referred to, ranks Experience twentieth or near the foot of his scale of qualities of merit in teachers, ranking General Appearance and Health alone below it. This seems to be a mistake made very frequently. The explanation for this erroneous conclusion is not far to seek. A teacher never fails on account of lack of experience, but for the lack of one or more of a number of qualities that experience will inculcate or enhance. A teacher either starts in with the qualities necessary for success, gets them soon thereafter, or falls by the wayside and is eliminated from the profession. If he makes due effort, the public is patient with the beginner and tolerates him for a year or two, although he is not giving satisfaction. A change of community also keeps him in the profession a little longer, but if in the course of a few years he has not improved sufficiently he is generally eliminated, as shown by the table above. Boyce's data also show the effect of experience from the positive side. His investigation shows that no teacher ranked first or second in merit who had had less than three years of experience and in Ruediger and Strayer's study less than five years failed to put a teacher in the first or second class. Experience is evidently one of the most important elements in determining who will "make good" in the schoolroom.

Although there is always a principal cause for the failure of teachers, there are generally several causes that assist in bringing about that result. Our correspondents were asked to mark the causes 1, 2, and so on, in the order of their importance. In the table below the failures are arranged according to the frequency with which each cause occurs as the dominant one.

TABLE VII.

DISTRIBUTION OF FAILURES IN THE HIGH SCHOOL ON THE BASIS OF EXPERIENCE AND SUBJECT TAUGHT.

Subject	1	2	3	4	5	6	7	8	9	10	11	12
English........	7	3	6	1			1	1		1		
History.......	4	7	2	1	1							
Mathematics. .	6	4	4	2								
Science........	11	3	1					1				
Manual Tr.....	5	3					1					
Latin.........	2	2	2									
Domestic Sc...		2	1									
German.......												
Total.........	35	24	16	4	1		2	3		1		
Per Cent......	.42—	.28	.19	.05—	01+	.00	.02+	.03+	.00	.01	.00	.00
Grand Total...	97	50	35	22	6	2	3	11	1	4	2	4
Per Cent......	.39	.20	.14	.09	.024	.008	.012	.045	.004	.016	.008	.016

Subject	13	14	15	16	17	18	19	20	21	22	24	25
English........												
History.......								1				
Mathematics. .												
Science........												
Manual Tr....												
Latin.........												
Domestic Sc...												
German.......								1				
Total.........								2				
Per Cent......	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00
Grand Total...		1	1	0	0	0	0	7	0	0	0	1
Per Cent......	.00	.004	.004	.00	.00	.00	.00	.028	.00	.00	.00	.004

Subject	26	27	28	29	30	Above 30	Total 20
English........							16
History.......							17
Mathematics. .							16
Science........							16
Manual Tr....							9
Latin.........							6
Domestic Sc...							3
German.......							1
Total.........	0	0	0	0	0	0	84
Per Cent......	.00	.00	.00	.00	.00	.00	
Grand Total...	0	0	0	0	1	1	245
Per Cent......	.00	.00	.00	.00	.004	.004	

TABLE VIII.

CAUSES OF FAILURE.

Causes of Failure	Chief Cause	Contributory Cause	Total
Weakness in discipline	114	54	168
Lacked judgment	45	86	131
Deficient in scholarship	42	40	82
Poor methods	41	79	120
Daily preparation insufficient	23	51	74
Lacked industry	19	28	47
Lacked sympathy	17	45	62
Too nervous	15	30	45
Deficient in social qualities	15	27	42
Unprofessional attitudes	14	28	42
Unattractive appearance	12	29	41
Poor health	12	13	25
Lacked culture and refinement	11	28	39
Uninterested in work of teaching	10	26	36
Too many outside interests	10	23	33
Immoral	10	1	11
Too frivolous	9	17	26
Disloyalty	9	16	25
Could not control temper	7	23	30
Deceitful	7	19	26
Untidy in dress	7	14	21
Remained too long	5	17	22
Too immature	3	13	16
Wrong religious views (for that community)	2	3	5
Attended places of questionable amusement	1	8	9
Keeping company with high school boys	1	0	1
Use of tobacco	0	1	1

The total number of times all the causes are found as the principal one is greater than the number of failures reported. This is owing to the fact that in many of the reports all the causes were simply checked or marked 1. It was necessary, therefore, either to reject all of those causes or give all of them the same rank. Both plans were tried, and since the results did not differ materially the latter was thought preferable. An important truth was indicated by these trials, namely, that the conclusions arrived at from the reports are independent of the number, so long as they are sufficiently numerous to justify drawing them.

According to Table VIII weakness in discipline is the besetting sin of teachers and responsible for a large per cent. of failures. This conclusion is in accordance with the data given by Sherman Littler in a study in the failure of elementary teachers.* One correspondent makes a much stronger statement. He says: "I have kept track of the failure of teachers for years, and in my experience three-fourths of them is due to lack of discipline." While this statement may be a little too strong, yet it shows what importance supervisors attach to disciplinary power.

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* School and Home Education, March, 1914.

Cleda Virginia Moses, in her report* on the causes of the failure of high school teachers, gives first place in the scale of failures to poor instruction. The writer fails to see how personality can be divorced from disciplinary power. A strong personality is absolutely essential to a good disciplinarian. Including personality under disciplinary power in the study referred to, weakness in discipline would take first rank by a liberal margin, and by greater preponderance will it do so if lack of sympathy, nervousness, deficiency in social qualities, and deceitfulness, factors that greatly affect disciplinary power, are placed in the same category with it.

The same conclusion can be drawn from the data recorded by Rudiger and Strayer in an article† on the qualities of merit in elementary teachers. Attacking the problem on the positive side in their investigations, they place disciplinary power first among the qualities of merit in a teacher.

Lack of judgment comes second in the present study, both as the chief and as a contributory cause. It enters so largely as a factor into so many other pedagogical sins that the number of cases reported under its head is not a true index of its prevalence among teachers. Unprofessional attitudes, unattractiveness in appearance, lack of culture and refinement, too many outside interests, frivolity, disloyalty, immorality, lack of control of temper, untidiness in dress, remaining too long in the same community, attending places of questionable amusement, keeping company with high school boys, and use of tobacco may all be attributed to lack of judgment and consequently grouped under that head.

Poor methods could be included under lack of scholarship, since they are due to a great extent to ignorance of pedagogical and psychological principles. Want of industry, insufficient daily preparation, and uninterestedness in the work of teaching may also be combined under the last mentioned.

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* School and Home Education, January, 1914.

† Journal of Educational Psychology, May, 1910.

Equalizing Educational Opportunity

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IF democracy in education is to be a fact, and not merely a sentiment, considerable readjustment of present educational resources as well as additional provisions will be needed in American school systems. It has been well said that the cure for the lack of democracy is more democracy, or, in other words, it is the failure of democracy to be democratic that gives dissatisfaction. We have offered free elementary, secondary, and, in most states, free higher education, and still perceive that our ideal has been but partially achieved. Somehow, the lofty aphorism, found in the Declaration of Independence, that "all men are created free and equal" has not operated to continue the equality of the natal state to more advanced stages of life development. Our democratic aspiration in so far as it has been interpreted to mean similarity or identity of opportunity has been the cause of much ineffectiveness of legislation, judicial procedure, and educational provision. Restricting our observations to the province of education we may say that we have sought to obtain equality of opportunity by uniformity of educational provision. The new born child is neither a peasant nor a prince by destiny; we will educate him, however, for the potentialities of a president, an aim which has been vindicated in individual instances, but which has been unavailing for the mass.

Democracy is not a conglomerate, formless, purposeless, and inert, but more properly is a mosaic in which each constituent element ought most appropriately contribute to the harmonious whole. The democracy of the French Revolution seemed to present in its radical phases a picture of a level waste without color and without elevations, hence, no higher cognomen than "citizen." Our early notions of American democracy have similar elements of monotony, but instead of the level waste there was presented to us a collection of equal mountain peaks, hence, perhaps, the presidential range theory in American education. Common sense and observation have long indicated what modern scientific methods objectively demonstrate, namely, that while men are born admittedly free they are nevertheless born inherently unequal. There can be no natural human state which may be metaphorically described as either a level waste or a chain of mountain peaks. Like the surface of nature mankind has its natural peaks, its hills and valleys, and its level plains.

Mr. Courtis, in his experiments in arithmetic attainments, enunciates the following law: Equal amounts of drill produce unequal results of class attainment, and again, to produce standard results unequal amounts of instruction must be applied. Stated otherwise the law may be formulated as follows: To unequal mental potentialities equal amounts of drill will produce unequal results. The law is as definite as the algebraic formula that equalities added to inequalities will produce inequalities. This law very likely applies to the whole range of individual capacities. The Binet-Simon tests indicate a wide range of capacities both in subnormal and normal types. Psychological eliminative tests and industrial experiments in connection with motor reactions reveal the same variations respecting vocational abilities. In spite of obvious evidence pointing otherwise our educational procedure is still characterized more by uniformity rather than by variety. Our recent compromises in the way of flexibility and of differentiated courses do not adequately meet the varied needs of many of our children. In seeking equality of attainment in such single subjects as arithmetic we are concerned chiefly with quantitative differences in methods of procedure in which each pupil receives varying amounts of drill. To attain anything like equality of educational, social, or vocational opportunity our treatment must be chiefly qualitative, namely, by varied courses and many types of institutions.

We must attack the problem through a paradoxical procedure similar to that noted in connection with the law of Mr. Courtis. We have a homely proverb to the effect that "what is one man's meat is another man's poison." This prosaic maxim, however, has usually been applied literally, though there is good reason to believe that it can be applied figuratively. Substituting for standard achievement in school subjects the democratic ideal of equality of opportunity (tempered as the ideal now is with the recognition of inherent differences of individual powers) we shall need to seek the attainment of this uniform result by varied educational provisions* and not by one method—or, briefly, if all could attain the same, each would need to receive a different gift. We are forced to admit that all cannot receive the same since there is, strictly speaking, no common destiny for individuals or identity of mental attainment or sameness of vocational opportunity. Each individual must be measured against his own inherent possibilities. Fairness is a better word than equality. Since inequality is fundamental, we may assume that it is good. We have striven for a hypothetical equality; we may more profitably seek to develop the capacities of individuals admittedly unequal. Standard scores in arithmetic may represent a conventional achievement which some may reach easily, with power of largely surpassing, and others attain with great difficulty, while both may reach the same goal by different methods. Economic competency as a vocational ideal represents a standard with ranges which cannot be indicated by numerical values, but which must be achieved in accordance with the method of variety involving both qualitative and quantitative differences. This law is ignored by those who seek to obtain standards of mental attainment or efficient life equipment by means of some single procedure such as the classical course or through what is vaguely described as general education, which, when analyzed, means through processes limited to particular groupings of subjects selected for fancied disciplinary values.

The difficulties in the way of carrying out the many way theory are in a measure those of organization and financial resources. We cannot erect a new educational edifice, we must remodel the old one. Education like government proceeds by the method of readaptation and readjustment and not by the factory method of "scrapping." The larger the city the more appalling becomes the prospect of adjusting school organization to drastic changes of organization. Cities paying liberal salaries to teachers, granting tenure of office, and investing generously in school buildings consider with dread the prospect of any considerable change. These communities, seeking to be progressive, feel themselves forced to proceed by adding new units to the school system rather than by reorganization. All the old must be carried along whether effective or not, and to it the new must be added as a tenuous fringe when there is money enough to do so. Many school systems find themselves like certain troubled American business corporations that have accumulated inflated stock. Dividends must be paid on the water before expansions, new equipment, and better service can be attempted. The result is, in these school systems, that there is a marked disproportion of available educational opportunity. The need may be for a large proportion of industrial education and a relative small provision for general training, but available opportunity may be in inverse ratio to the needs. Many a community with educational reputation is pointing with pride to the range of educational opportunity provided by the school authorities. An analysis of the situation more than likely will show that while there is range there is no proportion. Like Tantalus, the boy may see, but he may not partake, because the school he chooses is full. I attended a meeting of vocational counsellors in a certain city and listened to an "experience" recital which illustrates the point. The boys and girls of the elementary schools of the district had received careful advice, and their aptitudes and needs had been discussed, as a result of which each had made a choice of high school with intelligent deliberation. The following September the major portion of these pupils were found in a temporarily fitted up annex of the local general high school because there was no room elsewhere.

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* EDUCATIONAL ADMINISTRATION AND SUPERVISION, January, 1915, p. 37.

Let us consider the situation at present confronting Massachusetts. Legislation of recent years has in a large measure raised the compulsory age of school attendance to 16. Boys and girls may be employed between 14 and 16, but under such restrictions as materially to discourage employment. Unless at work the youth must attend school. During the past six years (1908–1914) in Boston the enrollment of high schools has increased 130%, although the increase of the school population has averaged during the period only 2% annually. The increased number attending secondary schools has been distributed largely among existing schools; there have been established during this period only two additional secondary schools, namely, the Industrial School for Boys which, owing to limited quarters, can receive but 180 boys, and the Clerical School for Girls likewise with limited accommodations. The expensive existing type of high school has been expanded to meet the demand for extra seatings. Our present high school coat has been stretched to encompass the overflowing flock. Seatings is perhaps the best term to use, for many of those now thrown back upon the schools can not profit materially by means of the courses or provisions available. To provide especially adapted additional schools was utterly beyond the financial resources of the city, which was forced to furnish what might in pleasantry be described as the minimum essential of instruction, namely, a seat in a schoolroom.

Many a school system is face to face with the problem of redistribution of educational and financial resources. The reasonable limit of available tax levies is rapidly being reached. As a nation we have generously given from our public moneys for purposes of education, but the further indulgence of the taxpayers cannot be assumed to have no limit, especially as it is becoming evident, from general information, that other nations are securing larger benefits from smaller expenditures. Industry and government are feeling the force of the demand for economy and efficiency, the attainment of which uniformly involves the method of reorganization. Our educational systems cannot escape a similar demand which must be met by similar methods. Our school systems undoubtedly do need more money for the reason of efficiency, but they need no less a more effective expenditure of present resources. It is not the number of the pupils that has increased so much as the clearer recognition of the larger benefits which are to be obtained by a procedure different from that now obtaining.

Let us be concrete by illustrating how an individual city may more effectively get larger returns from its present available funds. Let us assume the case of a city with a population of approximately 650,000, and a school population of approximately 104,000. The present school organization may be supposed to exhibit a typical situation found in the East; namely, eight years in the elementary school and four years in the high school.

The cost of elementary education per capita is $45, and of the high school, $85. About 40% of the high school population is found in the first year. By the adoption of the intermediate school plan (six, three and three) 40% of the expensive high school education could be brought to a per capita cost of something like $50 or $55; and the resultant savings would go a considerable way toward making feasible new and varied types of educational provision for the purpose of equalizing educational opportunities. The intermediate school would save the present high school the embarrassment of receiving large masses of pupils who are destined to drop out either in the first or second year. It is or has been assumed that the greatest loss takes place at 14 or at the end of the elementary school period, but in the city in question pupils drop out in equal numbers at the ages of 14, 14½, 15, 15½, and 16. At 16 the eliminating movement is greatest, and those remaining, thereafter, constitute a much reduced number. Under the intermediate school plan the pupil would drop out at the end of a course of training which could be shaped for that event. Under the present plan the pupil drops out at the beginning of a course which is designed to be completed several years subsequently, and which, consequently, misses the needs of those who leave early.

It must be confessed, the intermediate school, as a device for saving money, is the most apparent and immediate way of saving considerable funds for redistribution for needed missing or inadequate educational provisions. Salary cutting, reduction of supplies, and increasing the size of classes do not work in the direction of efficiency, but quite the contrary. In many sections of the country money can be saved in the character of school buildings, especially in high school structures which are unduly ornate and exhaust the resources of the people with the result of causing inadequate accommodations for elementary school pupils. Modern school ventilation promises to give way to something less expensive and more efficient.

Apart from all financial considerations the intermediate school promises for most communities the most immediate means of equalizing educational opportunities. The plan is sound psychologically, pedagogically, and economically. Were it possible to begin a system of schools at the present time as in Gary we would adopt, undoubtedly, this method of organization or the six and six similar plan. To reconstruct our present system with a long history of another sort appears a difficult task. Circumstances before referred to, however, will force many communities to face seriously the issue. A transition based on the method of gradual readjustment rather than of sudden upheaval will likely be found to be wise, especially for conservative communities.

It may be pointed out that the adoption of the intermediate school may more readily serve to democratize educational opportunity for the many who today fail to find the school of highest service. One obvious advantage is that the intermediate school will affect nearly all the children, at least for some period of school attendance. Few children reaching the age of sixteen will have failed to reach the lowest grade and good administration may decide that all pupils of normal mental powers may be transferred to this school at the age of fourteen on the assumption that the adolescent will profit more by being treated as an adolescent rather than as a child.

This paper presents a general plea for manifold types of educational avenues, rather than a detailed description of particular courses of study. For those who will assent to the principles involved in the intermediate school plan will be found many suggestive courses of study in various parts of the country, notably in New York,* Los Angeles, and Gary. In adopting measures for the intermediate school we must take care that we establish many types of institutions. Since the foundation of the Boston Latin School in 1636 we have had in Boston one type of the six-year high school plan, but limited to classical studies. The opportunity is provided for the few, but is lacking for the mass. Large numbers are always eliminated from classical courses through mental inability to succeed in a kind of work that has always proved to be highly selective; but there is no provision for the individual eliminated from the Latin course to try without prejudice another avenue better suited to his powers. It is the experience of all who have had the administration of varied educational provisions that every course exercises a selective influence; there are larger proportions of persistence in some courses than in others, but each course has its failures. There are some pupils who apparently seem to be able to succeed in any course, and others who can succeed in but one. It is certain that by many educational avenues there will be in the mass a larger total of individuals who find successful adjustment, and with fewer courses there will be found a larger proportion of failures. With any facts at present available there are, apparently, some individuals who can succeed in no course, but this assumption has been so inadequately tested that we are not justified in hasty assumptions about the matter. Improvement, amelioration, and reasonable opportunity are the practical ideals of educational democracy. Our progress towards efficiency promises to be in accordance with the mathematical theory of limits, and not that of absolute attainment.

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* See proposal of the New York Board of Superintendents, 1913.

At the recent convention of the N. E. A., superintendents' section, in Cincinnati, the resolution advocating the principle of lower secondary schools based on variety of types was opposed (unsuccessfully) on the ground that the plan would commit the individual to early specialization for which there is no proper ground, either by reason of inherent aptitude or of vocational destiny. Improper methods of administration might perhaps make this danger real, indeed, but there is no essential reason in the plan itself for such a dire prospect. The European types of early secondary schools do contain the objectionable features, but these characteristics are in the European provisions not by reason of the plan, but by reason of the social, economic, and governmental ideals of the people. European peoples insert the same features into every kind of procedure characterizing their thought and habits. We wrongly attribute to their educational foundations what is in reality national trait and culture. There is, consequently, little danger that we shall insert economic and social determinants into our own newer educational foundations intended to effect diametrically opposed results. With the challenge that we are now giving to the hitherto accepted standards of disciplinary studies and with the disposition to recognize in truer proportion the social and educational values of wage-earning vocations there is little danger that we shall close the door of opportunity to the boy who seeks his development through a curriculum which has the concrete content of a trade rather than of a dead language. The vigorous protest against varied educational procedure, written in florid style and ingeniously called "The Trap,"* will hardly halt the movement sturdily and seriously undertaken throughout our country to avoid the real trap which our outgrown and inadequate school system has unconsciously laid. The many-way method recommended for the intermediate school will for "a fortiori" reasons be expected in the higher school. The process of differentiation becomes progressively greater with the expanding powers of the individual; the laws of biology as well as those of intensive civilization point always towards more variation.

The establishment of the continuation school is an instance of the larger solicitude for the fate of the individual child, and a greater sense of responsibility for the educational influences of those who leave school either at an early age or with inadequate mental and vocational achievements. The continuation school, furthermore, is a conscious effort to equalize educational opportunities and is the result of a higher perception of the meaning of democracy through educational instruments. The continuation school has for its motive, primarily, the good of the child, and not his job. Because the methods used may be based largely upon the vocational activities underlying the job there is sometimes the suspicion that the continuation school may be largely a legalized instrument of exploitation; but this mistake is the confusion of the symbol with the idea. The child learns to count by handling beads, but the goal is not handling beads, but learning to count. Many a boy who has escaped or resisted the intended effects of formal abstract educational processes may find his awakening to the meaning of education in the concrete, applied procedure of the machine shop.

The evening school, which was the earlier form of continuation school, may be for more mature individuals another avenue of educational opportunity. The evening school is usually a replica of the day school; like our day institutions, in consequence, it needs to learn the lesson of serving instead of being served. Expanding appreciation and larger sympathies on the part of the day school probably will be immediately reflected in the character of our evening schools. The evening school has, however, the opportunity of adjusting itself more quickly to the form of our newer vocational and continuation schools. In some communities the evening school has been the forerunner of progressive methods which have been adopted in the day schools.

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* See proceedings of N. E. A., Supts' Section, Cincinnati, 1915.

Returning to the speculations with which this paper began: We say that the child is born free, but we mean that he shall not be enslaved by artificial restriction or arbitrary decree. The child is born with inherent determinants; otherwise stated, his individual capacities have essential limiting factors. The child has limitations of mental power, physical strength and appearance, economic status, and vocational opportunity. His freedom is limited by these determinants, but he may and should achieve all that these partly inherent and partly social limits will permit. The sententious philosophy contained in Gray's Elegy portrays the limiting power of adventitious circumstance; potentiality needs opportunity to achieve reality. Even the freest and most generous democracies tolerate restrictions justified from social necessity. The different degrees of economic status for which the individual child is in no wise accountable still profoundly modify his freedom to achieve a most fortunate destiny. Freedom after all is a relative term. We have advanced a long way from pure despotism; with a better democracy and a keener sense of justice there is in prospect a better freedom yet, but under any form of government we cannot transcend the immutable laws of inherent differences of mind and body which will always make for irreducible inequalities. There will, consequently, always exist higher and lower, greater and less. It is the attempt to artificially and arbitrarily assign individuals to these categories that makes despotism. A true democracy enables individuals to locate themselves effectively with respect to natural capacity.

There is the fear of improper sorting and of ill-considered guidance; that through incompetent direction the individual may be entrapped into difficulties that make for artificial, social, and economic restriction. To avoid the responsibility of the school for these dangers we must agree that it is better for the individual to choose wrongly rather than by compulsion to force the child to choose what is manifestly more appropriate. The right of choice is inherent in our conception of democracy; the most valuable lessons learned, either by individuals or by the mass, have been learned through mistakes. The whole theory of democracy rests on the assumption that the mass have freedom of choice in determining policies of government; why not extend our democratic principles to educational and vocational choice? There is the fear that if we multiply educational avenues we shall narrowly specialize, that in training the artisan we shall forget the man. It is assumed that of necessity new groupings of material that may have for a core vocational facts, or more properly modern vocational facts, will neglect to train the individual for his relations to society other than vocational. The relations of family, fellowmen, state, and culture must needs be developed by one process, and if we depart from traditional methods our very foundations of society are threatened. The "one way" theorists differ decidedly as to which way should be chosen; though all unite in denying the principle of many ways.

The educational one-way or few ways theory is by no means dead. Unsupported by modern psychology, scientific investigation, or by measured results there is little to support this theory; yet, through organized authority, established institutions, and long standing tradition, educational foundations are still strongly controlled for the maintenance of the formal discipline theory.

It must not be forgotten that the differences characterizing theories of educational procedure are those of method, not of purpose Mr. Kerchensteiner, in his advocacy of the many-way theory of procedure, boldly proclaims his purpose to be citizenship and not craftsmanship. The advocate of newer methods, and of untrodden educational ways, may see the goal as plainly, with as pure a purpose and as high an aim as the single-eyed culturist who fancies that he alone has the protection and perpetuation of social welfare on his shoulders and that its accomplishment is only in accordance with the method that he personally has followed and in which he has been successful. It is always hard for the individual who has been successful in a selective process to understand why everybody else cannot be similarly successful. The man who makes money easily cannot comprehend why others fail to grow rich.

We need today to give concern to the problem of benefiting more children rather than to seek primarily to raise to the highest limits our selected classes. Neither legislation nor public agitation has been necessary to provide opportunity for the economically favored or strongly endowed members of society. The general well being of the masses is always the result of well ordered design, of good laws, of wise provisions, and there is no other way. The hope of democracy is not in leadership alone, but in an intelligent and a well trained proletariat as well. Classes may flourish in spite of poor laws and unfavorable educational provisions. Genius, art, and poetry are found in almost any political or social circumstances, though best perhaps under organized effort. Fragrant flowers will appear along our waysides as if by accident, but the broad fields of grain must be planted with forethought and cultivated with care. An efficient society will likewise cultivate the rose, but will also sow the grain. An efficient society will not confine its labors to cultivating crops of grain by methods better adapted to the development of roses, for by this method, through the law of selection, roses will flourish and grain languish. After all we want both roses and grain, but we wish them in proportion and with due regard to the uses and needs of each.

DISCUSSIONS AND COMMUNICATIONS

A REJOINDER TO MR. SMITH'S CRITICISM OF "SIZE OF CLASS AS A FACTOR IN SCHOOLROOM EFFICIENCY"

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IT is not a difficult matter to select a single statement or part of a statement or a conclusion and isolate it from the context or data upon which it is based and make it appear false. Nor is it a very great task to juggle with other people's figures, in the absence of the original data, and show how they may lead to slightly different conclusions. It is much easier to do these things than it is to collect, by long laborious processes, data which may disprove the statement or conclusion so criticised.

Mr. Smith criticises the study of Size of Class as a Factor in Schoolroom Efficiency, which appeared in the March number of this Journal, by charging that it is a "typical example of insufficient data, unanalysed statistics, and unjustified conclusions." He also claims that these fallacies are "evident on even a casual inspection."

The writer contends that the conclusions reached—except where abundant caution is given against accepting the data as conclusive—are amply justified by the data presented. More than a mere "casual inspection" of the article will reveal the truth of the writer's contentions.

In answer to the first charge it may be said in reference to Promotion Rates (1348 classes), Percentage of Withdrawals (1348 classes), and scores made in the Courtis Tests (675 classes), that the internal statistical evidence warrants the guarded conclusions that were drawn. In reference to the data in Tables IX, X, XI, and XII, it is not claimed that the evidence is conclusive. Not even the casual reader could have overlooked the numerous cautions against accepting as wholly reliable the data on Attention of Class, Participation in Work of Recitation, Time Spent in Routine Activities, and Time Wasted in Study Class. The purpose in presenting these data was that the same measures might be used by others in verifying the results presented, for it cannot be denied that such activities are elements in schoolroom efficiency. The cautions stated in the article are quoted herewith: Page 209, lines 23–26, "Although these data are too meager to furnish conclusive evidence of the effects of size of class, they serve as an indication of the direction, at least, which other and more extensive studies may take." Page 210, line 8, "Although the data are very meager, the results would *seem to indicate*," etc. Page 212, line 20, "The evidence of the above facts *seems to indicate*," etc. Page 213, lines 20–21, "Although the data of the above table are inadequate for conclusive proof, the results *would seem to warrant*," etc. Page 214, lines 1–4, "These facts are in no sense to be taken as generalizations. The same is true of the facts of Tables IX, X, and XI. The results shown in these tables might easily be disproved if based on twice or thrice the data now at hand." It is believed that the most uncritical reader, having noted these cautions, could not have any misconceptions regarding the inadequacy of the data presented in that part of the article.

Mr. Smith, in the third paragraph of his criticism, seems to be laboring under a misconception of the meaning of the term *class* as here used. He claims that classes averaging nine pupils are unusual in city schools and that, if found, they represent abnormal pupils or special classes. The term *class*, as defined on the blanks used to secure the data, means the group, section, or number of pupils taken together as the unit for purposes of recitation or study. When thus used it is quite possible, and moreover a situation frequently found, to have two or even three classes in one room, the one reciting while the others study. Under such conditions a class of nine pupils does not necessarily represent an abnormal situation, in fact, there is every reason to believe that the classes were normal classes. It was no part of my problem in this investigation to note the effect of combining these small classes.

The second criticism relates to the separate treatment of promotions and withdrawals. It is obviously unfair to base promotion percentages on total class enrollment, for this must also include those who have dropped out during the year. Only those are eligible to promotion who are enrolled at promotion time, hence this number was used as the base in computing promotion rates. But in computing the percentages of withdrawals *total class enrollment* must be used since that *is* the only reasonable basis for making such computations. Since the promotions and withdrawals are computed on entirely different bases, it is wholly proper to consider them separately. Indeed, it would be wholly improper to consider them *together*.

Again the critic objects to promotion rates as a measure of a school's efficiency. It is not assumed that promotion rates are without fault as a measure of success, but it must be admitted that there is a common opinion that they are measures of class achievement. This investigation confirms what all others have found; i. e., that promotion rates cannot be accepted as true measures of a school's success.

Mr. Smith sets forth some conditions which he claims would secure for us approximately accurate data, the second one of which has been met exactly in the study he is criticising. The first and fourth of these conditions were met approximately. The third, which deals with the careers of pupils in different sized classes traced through successive school years, has not been met, but the fact that it has not in no way invalidates the data used in this study. The chances that a child will spend his whole school career in a class of given size are very small.

Our critic attempts to show that the data are not properly analysed by taking parts of Tables II and IV and erroneously combining these figures in a table which he publishes in his criticism. In discussiny this table he attempts to point out two inaccuracies, neither of which exists in either Table II or IV of the article in question. He first claims that it is erroneous to compare promotion rates and withdrawals when based on different individuals in groups of different size. In answer it may be said that this is a commonly accepted statistical method based on the reliability of the law of averages and that no other method is possible except under experimental conditions and even then the results may not represent *actual, existing conditions*. In measuring the effects of size of class upon promotion rates Drs. Corman, Boyer, and Bachman, all referred to in the article under discussion, made use of the method followed by the writer.

The other criticism is that no data are presented to show how many pupils drop out during the summer after passing the year's work. This criticism is most absurd. How is it possible for the size of class in any way to affect the number of pupils who fail to return when the schools reopen in September?

A good illustration of unanalysed statistics is shown in the critic's table and as corrected by him in paragraph nine, where promotion rates and percentages of withdrawals are compared as though computed on the same basis.

Analysis of summary tables must always be made either in the light of the methods and processes used in obtaining the figures of the summaries, or such analysis must be made in the presence of the original data. Mr. Smith has attempted to analyse without conforming to either of these conditions. A careful reading of the article would have given him the basis for the first condition. No apology need here be made for not publishing the whole of the original data in an article of the length of the one under discussion.

The criticism of the worth of the results of the Courtis Tests is based on the assumption that the small classes are classes of slow or subnormal pupils. This has already been shown not to be the case, since the pupils in small classes are just as likely to be especially bright pupils as they are to be dull or slow pupils. The average score, therefore, would represent a normal or average condition. He also cites the results of his table combining the promotion rates and withdrawals as evidence of the fact that the pupils in the smaller classes are below the average. The fallacies of this table have already been pointed out and cannot, therefore, be used as evidence.

The criticisms of the data of Tables IX, X, XI, and XII, do not, as Mr. Smith maintains, reveal anything as to the right sized class. They do seem to show that after all the teacher is the most important factor determining efficiency. Just what would be the result if a superior teacher were given classes of different sizes to teach no one knows.

It is contended that no very extravagant claims were made in the discussions nor were any iron-clad conclusions reached. Those which were stated seem to be amply justified except where caution is given regarding their unquestioned acceptance. The substance of the conclusions as a whole is that *the size of class is not a very important factor in schoolroom efficiency* in so far as these measures go and to the extent indicated by the data at hand. Since this is true we need to look for some other factors which may determine the effect of the size of the class.

Intelligent, unbiased criticism of every investigation in the field of education is welcomed. The methods, the data, and the conclusions of every investigation should be critically examined before any practical application is made of the results of such studies. But criticisms made hastily, biased by preconceived opinion, and based on mere casual inspection avail nothing.

If Mr. Smith wishes to disprove the conclusions set forth in the article he is criticising, let him collect, by legitimate and approved methods, data of sufficient reliability to show the error of those presented in the article which he questions. No one would welcome such an investigation more than the author of the paper. If the critic should familiarize himself with the elements of statistical methods and then reconsider the data with greater care giving it more than a "casual inspection" much of the ground for his criticisms will disappear and what seems to him to be "dangerous" will be found to be mere statements of facts.

WHAT IS A RELIABLE BASIS FOR ESTABLISHING STANDARDS FROM THE RESULTS OF THE COURTIS STANDARD TESTS?

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THE present movement for the measurement of educational results has raised many important questions to be answered by those engaged in the work. How many cases are necessary to provide an adequate basis for establishing objective standards of achievement from the results of the Courtis Standard Tests in the four fundamentals in arithmetic, is one of these questions. From time to time during the past three years, the Courtis Standard Tests have been given to 20,000 or more children in Boston. The objective standards of achievement derived from such testing have thus far been established on the basis of the class medians computed from the records of all the pupils who took the tests. The standards established for the fifth grade in 1914, for example, were based on what 4,574 fifth grade children did in those tests. Table I shows the distributions of the number of examples in addition attempted and the number correctly solved by these fifth grade children.

TABLE I.

NUMBER OF EXAMPLES.

	0	1	2	3	4	5	6	7	8	9	10	11	12
Attempts.....	1	6	36	107	275	402	666	627	710	507	404	254	162
Rights.......	213	309	377	508	536	568	547	436	338	257	155	101	71

TABLE I—*Continued*

	Number of Examples											
	13	14	15	16	17	18	19	20	21	22	23	24
Attempts......	136	84	58	54	32	15	13	8	9	5	2	1
Rights.......	49	32	29	16	13	10	4	2		3		

The above distribution shows that the range in number of examples attempted is from 0 to 24—as great as it could be because there were only 24 examples in the addition test. The distribution shows that one pupil did not attempt to do any examples and six pupils attempted to do only one each. At the other extreme, one pupil attempted the total of twenty-four, two attempted twenty-three, and five attempted twenty-two examples. The number of examples correctly solved is indicated in the second row of figures, which show that 213 pupils did not solve any problems correctly, whereas three pupils solved twenty-two correctly. The grade median, in addition, computed from the above distribution is, for attempts, 8.2 examples; for rights, 5.6 examples.

The grade medians in all tests were computed on the following number of cases:

Grade IV	4533 pupils
Grade V	4574 "
Grade VI	4225 "
Grade VII	3873 "
Grade VIII	3512 "

It is obvious that it is bad economy to handle the papers of so many pupils and to deal with such large numbers in the computations if a smaller number of representative cases would serve the purpose as well. The following is a brief report of an attempt to answer the question whether a smaller number would be as reliable.

The plan followed was to make three separate chance selections of approximately 500 cases in Grade V, to compute the grade medians for each selection and for the various selections in combination, and to find out what relation these different grade medians bear to the medians based on the city wide distribution of 4574 fifth grade cases.

The three chance selections, A, B, and C, were made in the following manner.

All the reports from every elementary school tested were arranged in alphabetical order by schools. Then the reports from classrooms within each school were arranged alphabetically according to the teachers' names. Likewise, the pupils' report sheets from each room were arranged in alphabetical order. A selection was then made from the report from every room in the city in the following manner: for selection A, the 2d, 4th, and 6th papers from the top of each room bundle were taken, resulting in a total of 460 papers. For selection B, the 2d, 4th, and 6th papers from the bottom of each room bundle were selected. Selection C was similarly made from the middle of each room bundle. Selections B and C were each made up of 460 papers or cases.

Table II shows the distribution of attempts in addition in each selection.

TABLE II.

	Number of Examples Attempted																								
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	Total	Median
Selection A.......			4	13	19	39	69	74	75	32	38	33	18	16	9	6	7	3	1	2		1		1	460	8.2
" B.......			1	10	24	43	68	65	72	60	46	17	20	13	11	4	3	1	1				1		460	8.3
" C.......			5	11	25	53	64	70	72	44	40	24	16	13	2	7	3	2	2	2	2	2	1		460	8.0

Attention should be directed to the fact that the medians based on these selections range from 8.0 to 8.3 examples attempted. The next table will show that with one exception this is the largest amount of variation found. Similar tabulations and computations were made for attempts and rights in each of the four tests, addition, subtraction, multiplication, and division.

Table III shows the medians based on the distributions in each of the selections (A-B-C), on the various selections in combination (AB, AC, BC, ABC), and on the total distribution for the city.

TABLE III.

		A	B	C	A&B	A&C	B&C	AB&C	City Wide
No. Cases.		460	460	460	920	920	920	1380	4574
Test 1.	Attempts...	8.2	8.3	8.0	8.2	8.1	8.1	8.2	8.2
(Add.)	Rights......	5.8	5.6	5.5	5.7	5.7	5.6	5.7	5.6
Test 2.	Attempts...	8.5	8.5	8.3	8.5	8.4	8.4	8.4	8.3
(Subt.)	Rights......	6.7	6.7	6.5	6.7	6.6	6.6	6.6	6.6
Test 3.	Attempts...	6.6	6.7	6.7	6.6	6.6	6.7	6.7	6.7
(Mult.)	Rights......	4.9	4.8	4.8	4.9	4.8	4.8	4.8	4.9
Test 4.	Attempts...	5.4	5.8	5.7	5.6	5.7	5.7	5.6	5.6
(Div.)	Rights.....	3.9	4.1	4.0	4.0	3.95	4.0	4.0	3.9

The average deviations from the city wide median for all tests and for each selection are shown in the following tabulation:

For selection	A,	460 cases,	AD = .100
" "	B,	460 "	AD = .112
" "	C,	460 "	AD = .087
" "	AB,	920 "	AD = .075
" "	AC,	920 "	AD = .062
" "	AD,	920 "	AD = .062
" "	ABC,	1380 "	AD = .050

The average deviation of the three selections of 460 cases is .100, of the three selections of 920 cases is .066, and of 1380 cases is .050. As the number of cases approaches the total for the city, the average deviation is smaller.

Our practice has been to transpose the decimal median grades into the nearest whole numbers and in a few cases to raise or lower these whole numbers in order to straighten the curve. In view of the fact that in each instance of 920 cases the average deviation was less than .1, it would be only in the most rare instances that this amount would be sufficient to change a median score from what it would have been if all the 4000 cases, more or less, were included. As a result of this study, we are trying the experiment of computing results and establishing objective standards on the basis of chance selections of 1000 cases not only in arithmetic, but in spelling and other subjects.

PROFESSOR J. F. BOBBITT'S SAN ANTONIO SURVEY

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IN December, 1914, the School Board of San Antonio provided by resolution for a survey of its schools. The work was entrusted to J. F. Bobbitt, of the School of Education of the University of Chicago, who appears to have made the survey without aid. The report possesses unity to a degree seldom found in reports of commissions and it is free from that repetition and overlapping characteristic of individual contributions to a commission report. That it will be less influential in San Antonio than if it represented the combined judgment of several investigators can not be asserted because we are not informed as to the conditions that called it forth and which must influence action upon its recommendations. If, as should be the case, the report is influential in proportion as its recommendations appeal to the common sense of the community to which they are addressed rather than in proportion to the number of signatures, it should stimulate marked progress even in San Antonio, which Mr. Bobbitt numbers "among cities of the educationally progressive type," for the author has been notably successful in explaining the advanced educational policies which he advocates so clearly by means of non-technical illustrations that the man on the street can hardly fail to understand. It is the clearness of exposition and the strength of the argument for making the schools meet community needs rather than any new point of view which makes this report notable.

In four weeks spent in San Antonio Mr. Bobbitt visited the three high schools and nineteen of the twenty-nine elementary schools. In judging their efficiency, aside from "standard tests" in handwriting, spelling, and arithmetic in the grades, he relied upon "personal observations and conferences and upon numerous documents." His feeling that if the fundamental aspects of education were properly safeguarded there need be no anxiety as to the attainments of the pupils in the schools may be inferred from the following statement of the controlling aim of the survey:

"In order that our examination of the fundamental aspects of education in San Antonio should not be lost in a multitude of details we have held fairly consistently to a discussion of these main outlines of the work. We have purposely refrained from entering into a discussion of the details of which the larger things are made up. If these are properly taken care of then the details will fall into their places in perfectly natural ways."

In popular language the author states his philosophy of education by discussing at length several things which he deems to be essential in the educational scheme of any city, and then he applies his formula

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* Report of a Survey of the School System of San Antonio, Texas, 1915, p. 257.

specifically to San Antonio. One recognizes in these discussions some of the language that was used in the same author's report of the South Bend, Indiana, Survey; but the application is different because the formula has to apply to a different concrete situation.

Mr. Bobbitt starts with the assertion that a fully rounded educational program should be designed:

(1) To fit the children and youth for effective performance of the labors of their life's callings.

(2) To lay a broad and secure foundation for sound judgment as to the various social, economic, and industrial problems with which one is concerned as a citizen in a democracy.

(3) To lay a secure foundation in knowledge and in habits for life-long health and physical vitality.

(4) To develop habits of healthy and socially desirable leisure occupations.

(5) To give effective training in the means needed for social intercommunication; namely the language or the languages that one actually needs.

(6) To train individuals for the activities concerned in the rearing and education of children; or, in other words, the functions of parenthood.

The author asserts that unless a thing done can be justified on one of the six bases enumerated it has no business in the school procedure, and he points out things not done in San Antonio that ought to be included, since they are needs for the effective training for activities in one or another of these six fields.

After showing that scholastic education is supplementary, not fundamental, the author discusses his six bases under the following heads: Education for Vocation, for Citizenship, for Physical Efficiency, for Leisure Occupations, the Teaching of Certain Subjects, General Organization and Administration, the Student Population, Elementary Teachers, the High Schools, Buildings and Equipment, and Finance. The report includes numerous tables and charts.

The responsibility for the things done in the schools of San Antonio is placed squarely upon the shoulders of the people of San Antonio. For example, the author calls attention to what he deems a waste of money in the teaching of high school algebra and geometry. "Eighty per cent. of the boys and one hundred per cent. of the girls," he says, "upon whom this money is spent would be ten years hence just as well off if the money were saved." He informs the San Antonio public that useful things are better for "strengthening the mind" than useless things, and then he proceeds to point out useful things not now done that might to advantage replace these two subjects which, so far as the many are concerned, he rules out as useless.

It is refreshing to find a discussion of the true function of the high school so absolutely free from any suggestion that certain things should be tolerated in the course of study because the college requires them. College entrance requirements, here in the East so compelling, are not even mentioned in this report. The criterion of use is the only standard of value appealed to. The author does not so much condemn the waste of money as the waste of time. "It is youth," he says, "that can not afford to have its irrecoverable time so squandered."

In the elementary field, too, it is good to see the attention of tax-payers called to waste in the over-emphasis upon hand-writing, oral reading, and spelling, subjects which those of a former generation are apt to think less well taught in the modern school than in the schools of their day. Yielding to this mistaken sentiment we unwisely require of all a proficiency needed only by the few.

The tax-payers of San Antonio are frankly told in this report that people should be taught at public expense to write only so well as they need to write for carrying on their various daily affairs. The main thing for the many is the habit of writing carefully and plainly. It is in the high school commercial department that vocational penmanship exercises have their proper place for the few who will follow clerical pursuits.

Likewise in spelling there is much waste of effort. "In the attempt to bring the total mass of the population all to the same level, the result is general mediocrity everywhere, and a failure to reach that high ability which is actually needed in certain clerical vocations."

The report deals chiefly with the broad general principles of school management, using details only for the purpose of illustration. Many things are left to be worked out by the regular force in the light of the principles stated. There are problems for the teacher. There are problems for the principal. There are problems for the superintendent. Responsibility for professional thinking is not lifted from any one of these employees. The author's point of view here is perhaps as well illustrated as anywhere by the concluding sentence in his discussion of Training Teachers During Service. He says: "We can not here go into details of the plan. A superintendent and principals who have the ability to do the work will have the ability to plan it."

BOOK REVIEWS

J. E. Stout. *The High School. Its Function, Organization, and Administration.* New York: D. C. Heath and Co., 1914. Pp. XX, $1.25.

This book would better have been entitled "High School Curriculums" since it is limited to a discussion of this one phase of the problem of secondary education.

That the "high school must constitute the great effective socializing influence in our civilization" is the key-note of the book. Due to many causes there is a need for a "restatement of the aim of secondary education and of a reorganization of the means." Among these causes are the changed and changing industrial and social conditions brought about by the industrial revolution and the growth of democratic ideals. Practically every subject that has ever been introduced into the secondary curriculum has been introduced to meet some practical need. Changing social needs have demanded new subjects and a new emphasis on old subjects but, nevertheless, the old subjects have been retained with little change of emphasis, while the newer subjects have been subjected to the deadening influence of formal discipline. The author implicitly, if not explicitly, rejects the doctrine of formal discipline. The subjects of the high school curriculum must be submitted to a thorough-going revision both in regard to subjects offered and in regard to their content. The aim of the high school and of each subject in the curriculum must be stated in terms of social *efficiency.*

In Part I of the book the author discusses the aims of secondary education in the light of these general principles. He finds the following to be the chief aims of the secondary school:

1. To provide for the physical education of boys and girls.
2. To give vocational guidance and training to youth.
3. To prepare for leisure occupations.
4. To provide general social efficiency.
5. To prepare students for college.
6. To provide adequately for the education of girls as well as boys.

Great emphasis is placed upon the need of a better teaching of social and personal hygiene and upon the need of rational physical training.

The need of vocational training for those pupils who cannot go on to college is recognized as one of the school's heaviest responsibilities. All students should be rendered vocationally intelligent. Schools have not yet developed adequate systems of educational and vocational guidance. The school must prepare for the leisure hour, however, as well as for the vocations. This will mean a curriculum rich in music, literature, and recreational activities. The author fails to clearly differentiate the sub-topic, general social efficiency, from the general theme of the book.

The assertion is made that girls have been woefully neglected. With the exception of physical education the author fails to show that the curriculum is less adapted to girls than to boys. When we consider that our system of high school athletics has benefited the few boys rather than the many and has emphasized the spectacular rather than the beneficial, it is a question whether the girls have really been neglected more than the boys even in the matter of physical education. The author quite properly, however, emphasizes the importance of woman in the modern world and of the great necessity of keeping her needs in mind in curriculum making.

Part II of the book is devoted to the organization of the curriculum and to the organization of subject matter.

A curriculum must be judged both by its required studies and by its electives. Too much emphasis has been put upon form and not enough upon content. Content should be the chief measure of the value of a required subject and it is pointed out that too often so called electives are really not elective at all. The range may be so restricted as to leave little choice, or the policy of guidance may be such as to leave the student little initiative.

The need for a reorganization of the new material of the subjects in the light of social demands is discussed at length. This is one of the most suggestive chapters in the entire book.

On account of the obligation which the high school owes the state in the matter of training for the exercising of the privileges of citizenship and especially of the duties of leadership in a democracy, it is argued that the social sciences should be on the list of studies required of all students. The hope of our democracy which is becoming more and more complex because of the extension of direct government through such instruments as the initiative, referendum, and recall rests upon an electorate possessed of a far higher level of general intelligence than any the world has yet known. The responsibility for training this electorate is placed upon the high school. The high school must also consciously promote certain great reforms as, for example, reform in the control of public health. Some may object that the author is here placing too heavy a responsibility on the high school, but there is no other known agency for accomplishing these ends.

Although presenting little that is new, these chapters on the various fields of subject matter and on the organization of the curriculum present fair statements of contemporary thought and practice.

Teachers interested in experiments in student self-government, should read the chapter on this subject.

In the chapter on physical training and athletics too much attention is put upon mere formal gymnastics and corrective exercises, while the social importance of games is almost entirely overlooked.

This book will be useful to those principals and teachers who are attempting to solve the problem of the high school curriculum and to the students of secondary education in schools of education. The book represents a careful though academic formulation and restatement of current opinion regarding secondary school curriculum making. In the appendix are printed a number of high school curriculums from representative high schools. There is, however, no criticism of these curriculums. The curriculums themselves differ widely, thus leaving the reader in doubt as to just what the author believes would be the character of curriculums that would result from an application of the principles of the book. But it is just this practical help that is needed to assist those who are confronted with the immediate responsibility of working out curriculums. Although there is a radical emphasis upon the social function of the high school, the practical administrator will probably feel that the author has merely stated his problem for him rather than offered practical solutions.

JESSE H. NEWLON.

Decatur, Ill.

WILLIAM D. LEWIS. *Democracy's High School.* Introduction by Theodore Roosevelt. Boston: Houghton Mifflin Company, (Riverside Educational Monographs, Edited by Henry Suzzalo,) 1914. Pp. xii, 130. 60 cents.

In this little book the high school of the past is roundly condemned as inefficient both in curriculum adjustments and in its internal government. The high school must become the great agency for training for social service. There are two ways to accomplish this end; through a curriculum adapted to individual and social needs and through a school government which provides for student participation and responsibility. The book is a regular sermon with the socialized high school as a text. The sermon is somewhat on the old-fashioned order in that the major portion of it is given up to a vivid portrayal, and fearful condemnation of the works of the devil in the shape of formalism and traditionalism in the schools; but it is also filled with the spirit of tomorrow and is shot through with constructive suggestions.

The author holds college domination responsible for the failure of the high school to meet the demands of society. This pressure from above has forced all types of students through the same narrow curriculum. He points out that girls have fared worse than boys because until recently there has been no recognition in the curriculum of the arts and sciences connected with home making.

Principal Lewis advocates as constants for all pupils the elements of social science (civics, economics and history), English, physical education and the manual arts. In addition the student should be introduced to "various other fields of knowledge," the aim being "to arouse dormant interests, to assist in the trying out process by which the individual finds his way to his particular vocations and to his avocations." Beyond the constants, choice of subjects must be made under wise and firm guidance from a programme of studies rich in electives both cultural and vocational.

While urging strongly the necessity of giving our youth opportunities for vocational training and discovery the author does not in the least minimize the educational value of the cultural studies. Even the classics have their place and will retain it, but the emphasis must be shifted from them to the modern humanities.

In all this it is implied that the high schools will offer many different curriculums. It is to be regretted, however, that the author does not really discuss the question of curriculum building with its problems of determining what shall be the prescriptives and electives in each curriculum and when the student shall be required to choose his curriculum. He tells us how to administer curriculums while the first problem is to build them.

Principal Lewis emphasizes the educative importance of school government. He believes that boys and girls should be prepared through civic responsibilities in the school for civic responsibilities outside the school.

Perhaps there is too much of the destructive and not enough of the definitely constructive. It is nevertheless a stimulating little volume. Every high school teacher should read it.

Decatur, Illinois. JESSE H. NEWLON.

FRANK HERBART HAYWARD. *The Lesson in Appreciation—An Essay in the Pedagogics of Beauty.* New York: Macmillan Company, 1915. Pp. 234. $0.75.

In this volume Mr. Hayward who is inspector of schools for the London City Council gives arguments in favor of direct teaching of artistic appreciation to school children, and rules for the carrying out of their practice.

The most detailed consideration is given to poetry and its teaching, and for this he emphasizes the importance of the first impression made by the poem, of the necessity for the pupils' freedom from distraction, and of the desirability of the teacher's knowing the poem by heart and reciting it with appreciation of words and rhythm. He believes in the careful analysis of metaphors, and in making use of biographical and other external associations when they can be made to enrich the poem's meaning. After the presentation of the poem by the teacher should come the reading and discussion by the pupils, and the progress in this treatment of the lesson is formulated for the teacher's convenience into seven steps. A less thorough analysis is made of the possibilities of teaching the appreciation of music, pictures, sculpture, the drama and the novel. Two appendices include a list of questions for the teacher's guidance, and a bibliography.

The author has used the method which he advocates, and he shows experience and enthusiasm in his account of it. There is some obscurity as to the age of the pupils who would benefit by some of this analysis, and one wonders how the schools in any but the largest centres can see the pictures or hear the music which are suggested for study. Uncolored prints do not adequately represent, nor does a graphophone call forth the same response as the soloist or the orchestra. In most of the lower schools neither the teacher nor any of the pupils would have the skill to interpret important music to a group by his own vocal or instrumental presentation.

Despite these difficulties which must beset anyone who attempts to train artistic appreciation with the equipment available for most schools, Mr. Hayward is to be congratulated on his constructive suggestions and teachers would do well to consider them.

ELEANOR ROWLAND.

Reed College.

CHARLES DEGARMO. *Aesthetic Education.* Syracuse: 1912. Pp. 156.

This little book by the Professor of the Science and Art of Education, recently of Cornell University, is in the nature of a tract for teachers. The author deplores the widespread insensitiveness to beauty and urges his readers to more interest in the education of popular taste.

He gives a short discussion of beauty in the different arts and in nature, of rhythm and symmetry, of unity and grace, and emphasizes the necessity for content and expression in artistic creation. His treatment of these is very slight and could hardly do more than suggest their importance.

The more original contributions of the author are in his illustrations of the beauty of adaptation of form to use, drawn from pictures of tools, guns, and engines; and in his encouragement to original creations of beauty illustrated by twenty-three of his own poems. Prints of the pictures and statues of which he writes would be desirable since many of them are unfamiliar, and perhaps more difficult for a teacher to find than those of tools and locomotives which he has included. However, since his book seems to be intended as a stimulant rather than as a treatise, presumably his wish to emphasize the beauty of common things which is often ignored, has led him to his choice of illustrations.

Reed College. ELEANOR ROWLAND.

CHARLES HERBERT ELLIOTT. *Variations in the Achievements of Pupils.* Teachers College, Contributions to Education No. 72. New York, 1914. Pp. 114.

Dr. Elliott asserts that there are three ways of investigating the efficiency of a school system; first, by ascertaining the size of classes, time allotment, curriculum content, etc.; second, by estimating the value of the school plant and the school expenditure; and third, by the application of standard tests to the pupils. He chooses the last of these methods. The two principal divisions of the work are devoted to the establishment of tentative standards of attainment for pupils of the 5th and 7th grades in five elementary school subjects, and a determination of the proper size of classes.

The author discusses briefly the principal scales that had been worked out at the time this study was published, describing the methods employed in their derivation. From the number thus reviewed, he selects for his use the Thorndike Handwriting Scale. the Hillegas Scale for English Composition, and the Courtis Arithmetic Tests. Besides applying these, he tested the pupils in Spelling and Vocabulary. A great number of examples of pupils' work were collected and scored, totalling more than twenty thousand. The samples taken by the author in person, however, and critically studied were the work of 1720 pupils in fourth, fifth, and seventh grade classes, representing, as nearly as possible all classes of public schools in the cities of New York, New Jersey, and New England.

The thing which characterized the results in all the tests is the great amount of overlapping between the grades. In fact there was practically no gain in quality of handwriting from the fifth to the seventh grade, the tentative standard being fixed at 9 to 10 on the Thorndike Scale, for both and the difference fixed in the difference in the speed of production. The girls make a somewhat better record in the tests, but there is not, in the author's opinion, sufficient difference to justify special provisions for the two sexes.

In regard to the desirable size for the class, Dr. Elliott says that his results are not conclusive and his figures show this to be the case. He quotes numerous and conflicting opinions on this subject. His general conclusions from his data are that medium sized classes (approximately 40) have a slight advantage over large or small classes in so far as promotion rate is a measure of attainment. An interesting comparison on this subject can be made here with the results of a study made by Mr. Harlan of the University of Illinois at about the same time.*

Mr. Harlan interpreted his results as a proof of the insignificance of class size as a factor in the efficiency of school work. Mr. Elliott realizes that the influence of the size of class, to be adequately measured, must be traced for a number of years. He apparently takes this point into consideration, but he does not explain satisfactorily just how he did so.

Dr. Elliott's own opinion, which he states at the end of his study, is that the class should be large enough to profit by the group stimulus and small enough to allow the teacher to devote a good deal of time to individual instruction.

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* EDUCATIONAL ADMINISTRATION and SUPERVISION.

The data are presented in both graphic and tabular form. The appendix includes a rather comprehensive bibliography; one section being given to a list of the more general works on the subjects treated, and another section being devoted to works concerned specifically with measurement of educational efficiency.

University of Illinois. J. HENRY JOHNSTON.

LILLIAN I. LINCOLN. *Everyday Pedagogy.* Boston: Ginn and Company, 1915. Pp. viii, 310. Price $1.00.

Miss Lincoln wisely disclaims any considerable amount of originality for her book. The work appears, on a rather cursory examination, to be very much what she represents it; namely, a book of suggestions based on actual class room experience, covering the details of class room management. It does not attempt any adequate discussion of the fundamental psychological principles involved in the teaching process.

Eighteen of the twenty-nine chapters are devoted to as many subjects of study, while the remaining eleven are concerned with more general topics; such as the Teacher, the Teacher's Equipment, The Recitation, Play, and Discipline.

The book was apparently intended primarily for young and inexperienced teachers in the rural schools, and for those teachers many of the points will undoubtedly have informational value.

J. HENRY JOHNSTON.

University of Illinois.

IDA COE and ALICE J. CHRISTIE. *Story Hour Readers.* New York: American Book Co., 1913. Primer and Book One, $0.30; Book Two, $0.35; Book Three and Teacher's Manual, $0.40.

The Story Hour Readers have a distinct individuality, especially in the amount of emphasis which, in their method, is placed on dramatization as an aid to the children in learning to read. The stories in the Primer, most of which are introduced by well-known jingles and rhymes, are first told by the teacher, and are all so planned that they can then be acted by the children, who soon in this way become familiar with using the new words and phrases. Blackboard work follows this dramatizing, and drill is given in learning not only words but groups of words at sight, and in phonetics. Lastly comes reading from the book, when each child is told to read the sentence silently and then rise and give the thought in his own language. Many of these stories are intended to be accompanied by music, nature study, memory selections, games, and correlated occupations. A Teacher's Manual with outlines of work, specimen dramatizations, phonetic lessons, devices for teaching sight words and group words, descriptions of handwork and games, and the words and music of the rote songs accompanies this series.

These readers should receive the attention of every teacher interested in primary work; the "story" or "content" method is carefully worked out in them, and the books with their many illustrations of quaintly dressed children and animals in color are most attractive. In the more advanced readers the stories are selected from our best literature, from European, Indian and Australian folklore, from Japanese fairy tales, and from Greek Mythology.

N. B. JOHNSTON.

MAUDE PARMLY. *Parmly First, Second, and Third Readers.* New York: American Book Co., 1914. Pp. First, 132; Second, 180; Third, 211. First, $0.30; Second and Third, $0.35.

By this method adopted in these readers, the author believes that the child even at six years begins to appreciate good literature and learns to read new matter independently and intelligently. The stories in the First Reader are those which all children love, Red Riding Hood, Cinderella, etc., told in simple descriptive language. In the Second and Third Readers these stories are often retold in a more advanced form, and poems and other stories adapted from such authors as Charles Kingsley, H. C. Anderson, Nathaniel Hawthorne, from English and from German Folk stories, etc., are added. In all the books the illustrations are many of them full page and in color. A Teacher's Manual accompanies the series.

In our opinion these books are among the most attractive available for young children and would be found valuable for use in the home as well as in the school. N. B. JOHNSTON.

Educational Administration and Supervision

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EDITORIALS

Superintendent Maxwell on "New-Fangled Plans of Organization"

AN interesting section of Superintendent Maxwell's Annual Report for 1914 (pp. 114-125) is devoted to secondary school reorganization. His assumptions, arguments and convictions here are characteristic, and they probably are typical of much current educational opinion on this most important question of American education.

Quoting from Professor W. F. Russell's recent article in the Educational Review (which author he at one time calls "President Russell" and at another "President Browne") he states as his opinion that the American boy compares unfavorably with the French or German or English boy of the same age. There is "no real evidence that the American boy possesses more shrewdness and power of initiative than the English or French or German boy." Yet "we must accept the demonstrated fact that in school acquirements and intellectual training our boys lose at least two years in school preparation."

There are three causes for this. (1) "All genuine high school studies" are commenced much earlier in France and Germany. (2) The German and French boys are in school more hours per day and more weeks per year. (3) American parents will not allow their boys and girls to work hard and steadily. There is practically no limit to the mental work a boy of 15 years should do. (The person from whom he quotes adds the assumption that he is "working wisely.") As to a fourth possible cause—the superiority of training of French and German teachers—Mr. Maxwell, to our surprise, is disposed to doubt the fact.

What are the remedies? There are several. One is to add a year to the upper grades as a sort of "intermediate school" extension. But this mere addition of another year of grade work has already proved "inefficient and expensive" in New York and in New England and is being eliminated. Other plans are to adopt a six-six plan or organize on the junior-senior high school plan. Mr. Maxwell ten years ago advocated the six and six plan, but for reasons now accepted (but not vouchsafed the reader) he will have no more of it. It fails to reduce the total of twelve years of public school education and its practical difficulties are "practically insurmountable" (again despite the fact that hundreds of school systems are surmounting them!).

Mr. Maxwell condemns as an insufficient pretext for reorganization, every device or principle of administration apparently that will not "save time," and dubs all such modern attempts at fundamental readjustments of educational machinery and method "newfangled plans."

As constructive proposals he urges three reforms for New York. (1) Extend the high school day (including the seventh and eighth grades) from five to six hours, mainly for "rest and play" between recitation and study, to avoid the "mental fatigue" which is "the great foe of continuous progress"—(all this from the advocate of "hard and steady work" who thinks there is no limit to the amount of "mental work" of the high school student, with no mention of work on methods of supervised study in the lengthened school day).

(2) Lengthen the school year from 190 to 220 school days for the high school and upper grades mainly by cutting off one month of the summer vacation.

(3) Establish an experimental high school with a five years course built upon the six years of elementary education. Make the entrance requirements to this school by *examination which will be so conducted as to admit only those of "unusual ability along academic lines."* He puts himself explicitly against the "American fetich of equality of opportunity," and sees only that such "democratic" theories put into practice would serve "to reduce the progress of the bright children

to a level with the progress of the dull." Almost immediately following, however, he adds in effect that the practice of taking directly from the elementary school those over-age or otherwise mature children to whom book-learning does not appeal and placing them in a vocational school has served "the great and high purpose" of demonstrating the practicability and desirability of differentiating after the sixth grade when the educational principle of this differentiation is clear. Maxwell is simply focussed upon *one* of the problems of what to do *after* the six grades; viz, "the obvious advantage in selecting unusually bright boys and girls at the close of the sixth year and giving them an opportunity of attacking the higher studies immediately."

Again "I cannot resist the conclusion that students who are not going to remain more than a year or two years in high school might have courses of study (curriculums) more nearly related to business or to their lifework than the regular work of the four years' course (curriculum)."

Connect the fact that Mr. Maxwell admits the principle of flexible curriculum offerings after the six years, specifies the partial differentiation for one group (the unusually gifted), recommends the short one and two year curriculums for those to be only a few sessions in high schools, outlines a scheme for the four curriculum divisions of seventh and eighth grades (Appendix B of the same report), and urges the five year extended senior high school curriculum with its possible inclusion of freshman college work, and as well highly approves the differentiation for boys and girls of the biology and physics work, the further development of the well-known two-year homecraft curriculum and a new and still further developed differentiated curriculum in household economy for girls and the new curriculum organization of the commercial branches—connect all this with his temperamental penchant for rigorous traditional school discipline, and with the obstacles of the scholastic-academic traditions of New York high schools (as contrasted for example with the idea of the cosmopolitan high school as it is gaining adherents in Cincinnati)—and we may almost claim this great conservative American school superintendent among the advocates of secondary school reorganization, despite even his vigorous, but not altogether clear, opposition to Resolution VI* of the Department of Superintendence at the recent Cincinnati meeting.

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* This Resolution which was so interpreted as to cause a bit of a flurry perhaps for some with apprehensions as to such changes as are contemplated reads innocently

It is encouraging as well as interesting to find the so-called "opposition" virtually desiring the same results and even recommending the same changes and strenuously differing only in the matter of the *naming* of the necessary administrative and pedagogical adjustments. C. H. J.

Two Educational Laments

ENGLAND'S

"Can we teach Germany anything in intellectual matters? We have a great literature; do we as a nation treasure it, study it, or carry on its tradition? We have scholars and thinkers more human, if less erudite, than the Germans; but in this side of learning we are much inferior to France. We are a nation of intellectual apathy and stupidity. Our education is starved, the plaything of constant experiments; we have no consistent policy and no settled goal. Our tradition has been to make the harmonious development of character the object of education. We have aimed at producing the 'gentleman.' We have succeeded in a measure, and our success in this aim is, I believe, the greatest contribution that we have ever made to educational practice. But we have never pursued the ideal thoroughly. Partly, we restricted it to a class, and thought the ideal inapplicable in the sphere of elementary education; and the word 'gentleman' has acquired a snobbish connotation. Partly, we narrowed the ideal by an over-emphasis on the element of morals, manners, and physical qualities; and so we have produced the gentleman of little or no information or intellectual interest. And partly, we have of late tried to cure this defect by a violent reaction in the opposite direction; we are now tending to exalt specialized instruction at the expense of liberal education; and so our next stage may be to produce the business expert who is not a gentleman—*quod di avertant.* But if it is not yet entirely renounced, the old English ideal of a cultured gentleman, as the best product of education, is something which Germany might be the better for learning."

Such searchings as these are well to consider. This English writer and scholar admits much of superiority for Germany. The above is one of the things that he banks on as a glory of England.

In another place he adds: "We English are in a trough of a wave of disbelief in liberal education. We parade our skepticism. The

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as follows: "Resolved, That we note with approval the increasing tendency to establish, beginning with the seventh grade, differentiated courses of study aimed more effectively to prepare the child for his probable future activities. We believe that as a result of these modifications a more satisfactory type of instruction will be developed and that a genuine economy of time will result."

We propose in a later issue of EDUCATIONAL ADMINISTRATION AND SUPERVISION to discuss more specifically just what is meant by "*differentiated courses of study.*"

present age has witnessed the public apotheosis of two types of men . . . The first of these is the 'plain business man.' The second is 'the business expert.'. . . It is very generally accepted as a cardinal theory of efficiency in life that business capacity is the criterion of all capacity. As a corollary we have the outcry in higher education for the displacement of Latin and Greek by science and modern languages, the outcry in elementary education for the displacement of everything by technical and utilitarian instruction. . . General information, a general interest in matters of intellect and taste, is regarded as not worth the time spent on its acquisition."*

As a Japanese scholar recently put it: "The English people do not hurry; nor do they stop. They are like a slow but hastening stream in the quest of eternity. I heard so often the word 'character- building' while I was in England, and I was highly pleased to know that even the squalid gutter-snipes of East London would never violate the unwritten law of 'fair-play.' Indeed, in England everybody is endowed with the possibility of becoming a gentleman. The great strength of the English civilization is in its power of organization for the perfection of a social life in which people, from their confidence of being men-in-the-kingdom, and not merely men, keep a clear vision of life's fulfilment. . ." This interesting writer goes on to say that this practicalness has also the inevitable bad effect, since every one is aiming at the same unspecialized, well-disciplined common-sense of a sad monotony, colorless harmony, and mental stagnation. It is highly interesting to compare these two attempts to analyse the *gentlemanliness*, or ''culture,'' which Locke and many others have called distinguishing characteristic of English education—especially so since so much of modern education does not seem to be possessed of this element at all.

AMERICA'S

"Probably our country has seen no generation so miserably educated as we have been. . . There has come for our town-bred generation a complete divorce of hand and mind. . ."

That energy which might have gone into constructing things, learning from science how our modern world went round, getting acquainted with our community, where we got best "prepared for life as adults by experiencing in childhood what had meaning to us as children"—most of this energy went for most of us into idle play, over-fed romanticism, obsessing sex-fantasy, or a quick dive into "blind-alley" occupations.

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* Hibbert Journal, April, 1915. Two studies of German Kultur, II. Rev. A. E. F. Blunt. Page 528.

Those of us without any startling capabilities or vices settled down to a routine, closed to all except local interests and the humdrum facts of daily life. The majority of young men were swallowed up in specialized office or factory work, which made no drafts whatever on their interest or initiative, or against which they could only chafe impotently. The young women went into a sort of specialized idleness with obsessions of dress and a restless search after diversion. Those of us with ambition and some kind of definite flair, destitute of training and cursed with absurdly inadequate notions of the complicated society in which we lived, could only flounder. The best enthusiasms got drained off into the shadowy ways of social idealism and "service" which too often ended in disillusionments and cynicism. Nowhere any tools we could grip; nowhere any knowledge for constructing them or skill for reworking what there was. Our education had neither given us the training with whose aid we could escape the rut, nor any sweet alleviations of tastes and culture to make endurable our ineffectiveness. One wonders if there was ever a generation more thoroughly dissatisfied with itself, and from whom society had more cunningly removed the opportunities for self-expression and the chance to get intellectually and manually at grips with things. American industry, politics, letters, already feel the blight of this incapacity. Originality, picturesqueness, raciness of expression and attitude, daringness of social invention and experimentation, fine flair of decorative art, and even robustness of dogma, seem all to have been washed out of this colorless and uninteresting generation. . .Where youth finds its niche or gets its opportunity, it responds eagerly and capably. The tragedy has been that a repressive "education" which callously ignored the demands of life, has done its best, in ways which we are beginning to see as almost malevolently ingenious, to separate youth from its opportunity. . . For when education becomes the child's learning to do things instead of the teacher's teaching it subject-matter, the labor is immensely relieved. The teacher as helper and observer has a wholly new outlook. The old pedagogy becomes meaningless. Teaching becomes the life-blood of society."* C. H. J.

Public Schools for Vocational Education

FOR some of us, vocational education means, as America is sometimes said to mean, opportunity. We can conceive the school system of a city so organized that as the thousands of children reach the age at which the laws permit them to become wage earners, they may find open to them a great variety of schools in which these children, now become youths facing practically the problems of earning their livings, may, in quite definite ways, be trained to do their chosen work effectively. From our point of view these schools would simply be open doors of opportunity; they would be controlled by the public primarily in the interests of the young people themselves, and incidentally, of course, in the interests of parents, employers, and labor. They would be created by society to serve the sound aims of society.

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* Excerpts from Randolph S. Bourne's review of Dewey's *Schools of Tomorrow*, in the New Republic, June 26, 1915.

It is not so material to contempary discussion of this question as to what should be the age of young people admitted to these schools, provided the legal and reasonable needs of a general education shall already have been met. Surely we ought not to deny our youth, of fifteen to eighteen years of age, opportunities for vocational education, at an age when we freely permit them to become wage earners in factories. In these factories they are also educated, it is true, but under conditions which render the so-called education an incidental, often an accidental, and sometimes a vicious by-product, and where salable material output is necessarily the controlling purpose.

It is difficult to understand the objections of Dr. Dewey and others to specific vocational education when this is offered as an opportunity in public schools. Why does Dr. Dewey in his letter in the New Republic for May 15, 1915, put "education" in opposition to "trade training?" Is it wrong to teach a young person who seeks the opportunity, stenography, or plumbing, or gardening, or dentistry, or electric wiring, or cooking, or telegraphy, or weaving, or printing, and so to teach one of these "trades" that his skill and knowledge in that field can become commercially valuable to himself and to potential employers? The training in any of these lines, when it comes, should, of course, be thorough training—that is, of a character to insure the prolonged usefulness to himself and others of the person trained, including his ability to advance to upper stages of his calling, and, where necessary, to shift from one phase of it to another. All the evidence before us seems to point to the conclusion that special public schools suitably equipped with shops or other means of doing practical work—commercially and salably practical—can succeed well and economically in teaching these occupations. Shall we not call this education? Is it not an essential and valuable part of a complete scheme of education?

Prof. Dewey seems disturbed because specific vocational education may interfere with the general development of the youth. All educators will agree that we should reserve as much of the growing years as practicable for general education and all-round development, in which a large amount of practical experience with tools and industrial process, as is so well provided in the Gary schools, should be included. But we cannot afford to ignore practical considerations in this matter. Unless we fundamentally transform all existing standards and principles as to parental and individual responsibility, we shall continue to find that for many years a large proportion of our young people must become at least partially self supporting at or about sixteen years of age. The working-man, the artisan with four to six children, will encounter distinct limits to his capacity to support his children while they are getting an education. Can we safely assume that the period of general education for his children can be carried beyond fourteen or fifteen years as long as present economic conditions continue, and as long as we desire each family to be of normal size and to be self supporting?

But the ultimate question now is as to the conditions of sound vocational education whenever, in the life of any particular youth, the opportunity for that should be provided. The farm, the counting house, the industry, and even the modern home, do not and perhaps, under existing conditions, cannot, provide effective vocational education. Excellent as Dr. Dewey seems to think the Gary System to be, and as it is in providing the opportunities for a rounded general or, as it can well be styled, "liberal" education, it does not provide vocational education except for a few persons specializing as apprentices. For a limited number of mature workers, Chicago and some other cities provide good opportunities for *extension trade* training, but Chicago opens as yet compartively few opportunities for sound vocational education for youths from fourteen to eighteen years of age, although Chicago knows that thousands, even into the tens of thousands, of its youth of these ages are at work in cramping juvenile occupations where the wage is almost the sole consideration.

All that many of us, following the lead of the best social economists, ask is that our cities and states create opportunities whereby our youth may supplement their general education with true, purposeful vocational education—as direct and effective in its place and degree as that now given to the dentist, the stenographer, the nurse, the elementary school teacher and the physician. If the existing school system as directed by men of scholastic traditions and academic mold can do this, give them the task. If they manifest incapacity or indifference, give the task at first to special state and local bodies *ad hoc*. But let us get something done—let us check the manhood-wasting *laissez faire* policies and futile practices of the present.

D. S.

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EDUCATIONAL ADMINISTRATION AND SUPERVISION

State Systems of High School Inspection

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I.

VARIATIONS

VARIATIONS in state systems of high school inspection proclaim the need of further study in this field of school administration. These variations may be traced to different causes. The primary objects of school visitation should yield some variations, sectional and state characteristics of school systems might be expected to influence systems of inspection, while location of control may be an important factor. But when we allow for large variations on account of these causes we still find it difficult to reduce the practices in the several states to very definite types. The reasons for so many variations seem to lie in the newness of systems, in their origin, and in lack of knowledge of other systems, rather than in a distinct need for so many types.

It will be the purpose of this study to set forth the different practices in the organization and administration of state systems of inspection rather than to discuss the merits of the various systems. Evaluations of certain type systems may follow at another time and place.

The inspection of secondary schools in the United States may be traced back to the year 1787. According to data furnished to the writer by Mr. Frank H. Wood, Chief of the Inspections Division of the University of the State of New York, the Regents appointed a committee, as early as 1785, "to visit Columbia College, then the only institution in the University, on the first Monday of every month 'to examine and encourage improvement in the students.' In 1787, after two secondary schools had been added to the University, similar committees for visitation were appointed. In 1881 provisions were made for the appointment of an inspector to visit a certain class of secondary institutions in the University. In 1890 provisions were made for inspection of all University institutions through special appointees, who were given the title of inspectors."

In 1871 President Frieze, of the University of Michigan, conceived the idea of inspecting high schools with a view to admitting graduates of approved schools to college on certificate. Soon the plan was taken up by other states. Schools were visited by different faculty members; indeed, several visits were often paid to the same school within one year. As the schools increased in numbers it became more and more expensive to send faculty members to inspect the different subjects; and so, in 1895, the University of Iowa appointed one man to look after high school inspection. The next year, Illinois and Missouri appointed special inspectors; and soon other states in the Middle West took up the special-inspection idea.

Inspection under control of a high school board was inaugurated in Minnesota in 1881. But while the Minnesota board was first organized in 1881, it did not have a special inspector giving all of his time to the work until 12 years later.

The systematic inspection of high schools by State Departments has been a more recent development. States, such as California, Texas, and Illinois, which have had university inspection for twenty years or more have taken up inspection by state departments within the last two or three years. The chief purposes which have given rise to state department inspection seem to be: the stimulation of new schools, the introduction of new subjects, the enforcement of legal requirements, and the proper distribution of state funds. In some states friction has arisen between state departments and state universities over inspection, but in others the closest and most helpful coöperation prevails.

With the exception of Texas, which began the inspection of high schools in 1885, the work in the South was first undertaken some ten or twelve years ago. Georgia seems to have been the first state in the old South to take up a systematic visitation of secondary schools. The General Education Board has borne the expenses of high school visitation in some ten or eleven Southern states almost ever since the work was inaugurated. The general character of the work in the Southern states has differed from that of the Middle West in that the attention of the supervisors has been given largely to the stimulation and organization of new schools. Four Southern states, Tennessee, Louisiana, Virginia, and Texas, now have inspection by state departments not supported by the General Education Board.

The following states report no official high school inspectors: Arizona, Delaware, New Mexico, Oregon, and Vermont. Of these five states, Oregon has some high school inspection and Vermont will probably have an official inspector within a year.

The principal variations in the several systems will be listed under the following heads: purposes of high school inspection, the appointment and control of inspectors, distribution of duties of inspectors, and authorities receiving reports of inspectors. Digests of the different state systems are submitted for the benefit of those readers who may be interested in special details which do not lend themselves to classification. The writer has made a faithful effort also to compile a correct list of official high school inspectors in the United States.

The material upon which this article is based has been gathered from personal letters from state superintendents, state boards, and state universities; and from blanks, bulletins, and reports published in the different states. The writer is indebted to many persons for unusually helpful replies to inquiries. From almost every state has come an expressed desire to know some results of the study. In order to meet certain expressed wishes for information, more details are submitted than would be expected by the average reader.

Purposes of High School Inspection

All school visitation may claim as its general object the betterment of schools. Even when schools are rigidly inspected and classified for the admission of graduates to college, the schools are usually benefited. Methods are discussed with teachers, suitable notebooks, references, and laboratory equipment are suggested. The efficient high school inspector is generally welcomed. School boards, superintendents, teachers, and pupils are glad to testify to the exhilarating effect of competent visitation.

In addition to the general object of service to the schools, inspection in different states is announced as having certain more specific purposes. Below may be found a list of the more prominent objects of visitation with the name of at least one state in which each special purpose prevails.

1. Organization of new high schools. West Virginia.
2. The development of special subjects, e. g., manual arts, agriculture, etc. New Hampshire.
3. The distribution of state funds. Massachusetts.
4. The enforcement of state course of study. Maryland.
5. The enforcement of state textbook laws. California.
6. The classification of schools for the certification of students to college. Michigan.
7. For certification to state normal schools. New Jersey.
8. For the promotion of worthy teachers. Kansas.
9. For the promotion of pupils from one-, two-, and three-year high schools to four-year high schools. Washington.
10. The maintenance of proper standards in teacher-training classes. New York.
11. The proper construction of school buildings. New York.
12. The cultivation of friendly relations between high schools and colleges. Different universities and colleges.
13. To communicate to the schools entrance requirements. Different institutions.
14. To make reports to college associations and commissions on accredited schools. States in Middle West and South.

Appointment and Control of Inspectors

Methods of appointment and of control of high school inspectors exhibit symptoms of unsettled conditions. Indeed, in some states, the location of control has been a matter of serious contention. As previously stated, state universities employed inspectors before state departments undertook the work. This has led to double systems in several states. Unfortunately, in some states, rivalry, instead of coöperation, prevails. In a few states, state departments and state universities have divided the work. Attempts have been made in a few states to have legislatures prohibit the universities from inspecting schools. But in spite of agitation over the appointment and control of inspectors the work has been extended and broadened until all states, except five, now have special inspectors.

The following methods of appointment and control may be found in different states:

1. BY HIGH SCHOOL BOARD. Minnesota.

   The High School Board of Minnesota was organized in 1881, and the President of the University, who had much to do with passing the high school law, served as high school examiner for twelve years. In 1893, the Board appointed a full time inspector.

2. BY STATE BOARD OF EDUCATION. South Carolina.
3. BY STATE BOARD OF ADMINISTRATION. Kansas.

   The control has recently been changed from the State Board of Administration, composed of three members appointed by the State Board of Education, to the State Board of Education; but the work has not yet been taken over.

4. BY STATE COMMISSIONER. New Jersey.
5. BY STATE SUPERINTENDENT. Washington.
6. NOMINATED BY STATE SUPERINTENDENT AND CONFIRMED BY STATE BOARD. Indiana.
7. NOMINATED BY HEADS OF DIFFERENT INSTITUTIONS AND APPROVED BY THE STATE SUPERINTENDENT. Ohio.

   In Ohio the State Superintendent appoints two inspectors, the President of the University two, the heads of four normal schools one each.

8. BY STATE UNIVERSITIES. Oklahoma and others.
9. BY STATE UNIVERSITY AND STATE DEPARTMENT JOINTLY. Florida.
10. STATE SUPERINTENDENT IS EX-OFFICIO HIGH SCHOOL INSPECTOR. South Dakota.
11. BY INDEPENDENT INSTITUTIONS. Johns Hopkins University.
12. BY HIGH SCHOOL COMMISSION. Alabama.

13. COMMISSIONER AND SUPERINTENDENT SERVE VOLUNTARILY. Idaho and Oregon.

Thus it may be seen that at least six prominent types of control prevail: University, state department, joint control of university and state department, state board of education, high school board or high school commission, and independent institution control. Methods of appointment are even more numerous than methods of control.

DISTRIBUTION OF DUTIES OF INSPECTORS

The duties assigned to individual inspectors show a wide variation. Some are specified by law, some are assigned by board and institutional regulations, while in some cases inspectors are given large liberties in selecting their work.

Some of the more important duties are the following:

1. Inspectors visit all subjects without distribution. Ohio.
2. Division of subjects into practical arts and liberal arts with a visitor for each division. New Hampshire.
3. Visitors for special subjects. New York has an inspector for Modern Languages; several states have visitors for manual training, etc.
4. Visitors for certain kinds of schools. Virginia has inspectors for normal training and agricultural high schools.
5. Visitors for smaller schools and visitors for larger schools. Texas. State Department inspectors visit former and University inspectors visit the latter.
6. Visits to evening schools. California.
7. Visits to private schools. South Carolina, Maine.
8. Making of legal classifications of schools. State Departments in different states.
9. Making of University classification and State Department classification. West Virginia.
10. Making classification for college admission alone. Different University inspectors.
11. Special inspection of school buildings. New York.
12. Inspectors supervise uniform examination questions. New York. Possible that Minnesota may use her comprehensive system of examinations, in the future, somewhat in connection with the classification of schools.
13. Responsible for the preparation of bulletins on various high school subjects. Texas.

14. Responsible for various reports. All inspectors.

15. Inspectors serve on committees which have in charge the placing of teachers in new positions. Texas and Kansas.

16. Inspectors serve part time as Professors of Secondary Education in Universities in many of the Southern states.

AUTHORITIES RECEIVING REPORTS FROM INSPECTORS

Some inspectors report to as many as five different authorities. For example, the Inspector in Kentucky makes reports, not necessarily in the same form, to the State University, to the State Department, to the Association of Kentucky Colleges, to the Southern Commission on Accredited Schools, and to the General Education Board.

The following authorities receive reports in various states:

1. Faculty Committee. Michigan.
2. Faculty Council with final authority on accrediting schools. Texas.
3. State Superintendent receives reports and prepares lists of accredited schools. Missouri.
4. Reports through State Superintendent to State Board. South Carolina.
5. Reports through State Superintendent to University and Normal Schools. (By-Law.) Ohio.
6. Reports through Secretary to Board of Education. Rhode Island.
7. To High School Board. Minnesota.
8. To High School Commission. Alabama.
9. Through State University to other colleges. Texas.
10. To Association of Colleges. Kentucky.
11. To Commissions on Accredited Schools. Inspectors in Middle West and South.
12. To General Education Board. By inspectors whose salaries and expenses are paid by the Board.

II.

DIGESTS OF STATE SYSTEMS OF HIGH SCHOOL INSPECTION

1. Alabama.—High School Commission, composed of Governor, State Superintendent, and State Auditor, has charge of county, but not of town and city high schools. Two inspectors, one connected with University and one with Polytechnic Insti-

tute, appointed by Commission. University representative gives more attention to town and city schools; Polytechnic representative looks more after county schools. All visits to county schools reported through Superintendent to Commission. University inspector, only, reports to University and to Association of Alabama Colleges. Schools visited in connection with state aid, to accredit schools to University, Alabama Association of Colleges, and to Southern Commission on accredited schools.

2. Arkansas.—Inspector appointed by University. Reports to University and to State Department, and to other colleges on special request. Inspects for state aid, to organize and develop schools, and for admission to college.

3. Arizona.—. . . "this state does not make a systematic inspection of High Schools." C. O. Case, State Superintendent.

4. California.—At first, faculty members inspected individual subjects; later one University examiner appointed. University Examiner accredits schools, State Department does not. In 1913, Legislature created office of Commissioner of Secondary Education. The Commissioner is Assistant State Superintendent. Law provides: "The commissioner shall visit and investigate the secondary day and evening schools of the several counties of the state. He may recommend changes in the course of study, and shall investigate all contracts with textbook companies and see that they comply with the law, and shall perform such other duties as may be assigned to him by the Superintendent of Public Instruction under the direction of the State Board of Education."

The Commissioner reports: "The University is justified in inspecting the work of the secondary schools for the purpose of determining whether graduates of these schools are qualified to enter the University. The Commissioner and Examiner will not work at cross purposes, because their purposes do not cross."

The Examiner writes: "The State Department takes no action in this matter (the accrediting of schools) whatever. Consequently there is no coöperation between the University and the State Department, because their lines do not cross. I may say, however, that the Board and the University work in perfect harmony with each other, and whenever we can further each other's interests we do so."

5. Colorado.—No state aid or high school law. No systematic

inspection by State Department. University inspector does not report to State Department or to other colleges.

Two colleges use University list, two others print their own lists, and another does not believe in accredited list.

A responsible official reports: "An accredited list has almost ceased in this state to have any relation to admission to college with any of the institutions." List of accredited schools regarded as merely an honor roll. The official quoted above writes: "I think our next step will be in the direction of rating high schools."

6. Connecticut.—Inspection under state board of education. Not more than one-fourth of schools visited annually. Visited for reimbursement of tuition to certain schools. Inspection does not relate to the admission of students to college. Reports addressed to Secretary of Board of Education.

7. Delaware.—No inspection. "May reach such development soon, have not yet." C. A. W.

8. Florida.—Inspection under joint control of University and State Department. Inspector is Dean of Teachers College of the University. Reports to University and to State Department. Objects of visitation: Stimulation, development, and classification.

9. Georgia.—No law. Inspection by agreement of University and State Department. Reports to University, State Department, and to other colleges. Colleges report records of students to Inspector. Inspector is, by law, entrance examiner to all medical colleges in the state. Inspector is Professor of Secondary Education in the University.

10. Idaho.—No University inspection. Inspection under Board in charge of all educational institutions. "A request to the Legislature was made for a regular inspector of high schools. The request was denied on account of inadequate funds. In the meantime the commissioner makes visits to as many of the schools as possible." E. M. H.

11. Indiana.—Inspector appointed by State Superintendent and approved by State Board of Education. Nothing to do with University or other colleges. Inspector reports that University sends out inspectors along industrial lines which report back to the University. Formerly, members of the State Board of Education, about a dozen men, inspected schools.

12. Illinois.—Two independent systems. Different standards

used. Little or no coöperation between inspectors of University and State.

University credits schools for one, two, or three years according to strength of schools. State system in operation a little more than one year.

13.—Iowa. Two systems, one under State Department and one under State Board of Education. State Department visits Normal training and graded and high schools securing state aid. Special grants and right to charge tuition furnish legal basis for classification by State Department. Three inspectors under State Board of Education visit schools with reference to the admission of students to college.

14. Kansas—"The inspection of high schools in this state has heretofore been carried on under the direction of the State Board of Administration. . . . Under a recent law, however, the State Board of Education will hereafter have charge of the inspection of high schools, but the system has not yet been reorganized."—W. D. Ross, State Superintendent.

15. Kentucky. Inspection by Professor of Secondary Education in the University, but under oversight of State Department.

Duties of Inspector: accredits schools to the University, visits schools from which complaints come to the State Department, assists in the organization and development of new schools, aids in adjusting courses of study to county and city high schools, makes reports to University, State Department, Association of Colleges, Southern Commission, and to the General Education Board.

16. Lousiana.—Inspector appointed by State Board of Education and serves under State Department of Education.

Inspector requires full information concerning training of teachers, courses of study, and records of pupils. Inspector passes upon the graduation of individual pupils, and files their records in the State Department. Colleges have access to these records and may use them in the admission of students.

17. Maine.—No inspection by University. Inspection under State Superintendent. Old law required two visits each year; new law leaves visitation to discretion of Superintendent. Schools are inspected for state aid. Normal training and vocational subjects receive attention.

18. Maryland.—"High school inspection conducted by officials of State Department to ascertain whether provisions of

state law and state course of study are being carried out. When requirements are met state aid ranging from $1400 to $2500 per school is extended."

Johns Hopkins University has an official High School Visitor who visits schools with a view to improving instruction and explaining entrance requirements to that institution.

19. Massachusetts.—State Board of Education has no legal control of high schools in larger towns and cities, but approves schools for the following purposes:

1. Approval for tuition reimbursement.
2. Approval for state grants.
3. Approval for certification of students to state normal schools.
4. Approval of about 100 schools belonging to Superintendent's Union. All such schools must meet certain standards of Board of Education.

The colleges do not undertake high school inspection.

Mr. Clarence D. Kingsley, High School Inspector, writes: "I believe the time has arrived in high school education when we should have not only inspection of high schools, but constructive supervision by people who are experts not only in the special subjects, but more particularly in the *teaching* of special subjects."

20. Michigan.—No state department inspection.

The University of Michigan began inspection of schools in 1871, and was the first institution in America to undertake such work. Members of the faculty were sent out as inspectors. While a special inspector was first appointed in 1899, members of the faculty still assist, and from one dozen to two dozen faculty members are sent out each year for about a week's work.

21. Missouri.—Two systems with close coöperation.

The University Inspector reports: "We send them (the Department inspectors) our reports and they send us theirs, each giving full faith and credit to the work of the other. Moreover, we meet once a month and go over all the reports in detail.

"Twice a year the State Superintendent prepares a list of schools, giving the exact standing of each school. This is sent to all colleges and normal schools in the state."

22. Mississippi.—No state department inspector. University inspector reports to University. Objects of visitation: the stimulation and classification of schools.

23. Minnesota. From 1881 to 1893, the President of the University was official High School Examiner under the High School Board. In 1893, a full time inspector was appointed. Large sums of money are provided for approved high schools. A comprehensive system of examinations has been carried on in Minnesota for many years. The advisability of using these in connection with certain phases of classification is now under consideration. The University uses the list of schools approved by the High School Board in the admission of students.

24. Montana.—The State Superintendent of Public Instruction is also State Inspector of High Schools. High schools are accredited by the State Board of Education.

25. Nebraska.—State Department inspects normal training and agricultural departments in high schools. University inspectors accredit schools, but make no reports to the State Department or to other colleges.

26. Nevada.—No State Department inspection. University inspector does not report to State Department or to other colleges. President of University is a member of State Board and is in position to make some use of inspector's reports.

27. New Hampshire.—Inspection by Department of Public Instruction. High school subjects divided into practical arts and liberal arts with an inspector for each division.

28. New Jersey.—Ultimate control of inspection with State Board of Education. Commissioner appoints Assistant Commissioner who acts as supervisor of secondary education. Board makes rules for approval of public and private high schools. Supervisor of secondary education makes recommendations through Commissioner to State Board of Education. Schools are approved for state aid and for admission to state normal schools.

29. New Mexico.—Effort made at last session of legislature to secure an inspector of high schools, but failed. Incidental inspection by members of state board of education and county superintendents, but no formal reports made.

30. New York.—The University of the State of New York is not a teaching organization. It is controlled by a Board of Regents and deals with problems of administration. Indeed, it has large control over all types of educational institutions in the state, both public and private.

The work of supervision is divided into departments and divisions. One of the divisions is designated the "Inspections Division." This Division employs a Chief and twelve inspectors.

Mr. Frank H. Wood, the Chief of the Division, writes as follows: "One of our inspectors, Mr. A. E. Hall, devotes his entire time and attention to school buildings, the inspection of existing buildings where improvements or new structures are needed, the inspection of new buildings and remodeled buildings when completed, the examination of plans for new buildings, the inspecting and testing of systems of heating and ventilation in school buildings.

"Another of our inspectors, Dr. A. C. Hill, gives his entire time and attention to the inspection of schools for defectives, the supervision of the Indian schools on the five State Reservations, and the direction of the schools in the four State prisons.

"Mr. W. E. Bartholomew gives his entire attention to the inspection of commercial departments of the high schools of the state and to the private commercial schools and colleges that are registered by the Regents of the University.

"Two other inspectors, Messrs. Johnson and Holcomb, give much of their time to the inspection of training classes and training schools for the professional training of teachers of which there are approximately 130 in the state.

"Dr. William R. Price inspects exclusively the Modern Language work in the University institutions.

"The other inspectors report on the general activities of the schools in both the secondary and elementary departments, in accordance with the outline shown in the general inspection blank included with other blanks which I am sending you.

"In addition, the inspectors are charged with important responsibilities in connection with the preparation of question papers for state examinations and the supervision of the rating of answer papers."

The state of New York has provided comprehensive legal requirements for the conduct of schools. Inspection has much to do with the enforcement of these requirements.

31. North Carolina.—One inspector for University and State Department. State Superintendent appoints Professor of Secondary Education in the University. Inspector visits schools

receiving state aid and such schools as deserve to be accredited by the University.

32. North Dakota.—Inspection under State Board of Education. Makes reports, on request, to University and other higher institutions. State aid to approved schools. State Board formerly conducted system of examinations in connection with classification. President of University had direction of these examinations. High school conference recently voted to have the examinations abolished.

33. Ohio.—Inspection under State Department. Eight inspectors; two full time, appointed by State Superintendent; two half-time, nominated by President of University; four half-time, nominated by heads of four state normal schools.

Each inspector reports on all subjects in high schools visited. Reports made to State Superintendent. Seven copies made; two filed with Department, one sent to each institution participating in inspection.

34. Oklahoma.—Inspection under University.

"I report to the Committee on Affiliation at the University and a copy of the credits given each school is furnished to the Secretary of the State Board of Education, to the Classification Committee, and to each of the state normals, agricultural, and other state schools, and to denominational schools in the state which desire copies."—A. C. Parsons.

35. Oregon.—"We do not have a State Inspector of High Schools. Myself and the two assistant superintendents, as we go about the state, visit the high schools for the purpose of inspecting and standardizing them. We visit each high school in the state at least once each year."—J. A. Churchill, Superintendent of Public Instruction.

36. Pennsylvania.—Inspection done by four inspectors working under the State Department of Public Instruction.

Schools are classified for the distribution of state funds.

Colleges of the state use the state classification to some extent in the admission of students.

Various bulletins are issued in connection with classification.

37. Rhode Island.—"The system of high school inspection in this state has been but recently initiated, and is still somewhat in the process of making. I serve under the authority of the State Board of Education, and I make my reports to them through the Commissioner of Public Schools. The high schools

are not inspected with reference to college entrance, but solely for the purpose of accrediting them as standard high schools, and determining their status in reference to state aid.''—Stephen S. Colvin.

38. South Carolina.—"The State Board of Education under the General School Law created the office of high school inspector, in 1907, and has used the Professor of Secondary Education as high school inspector ever since the creation of the office."—W. H. Hand.

Inspection for distribution of funds and for admission to college. Reports through State Superintendent to State Board. Visits some private schools and colleges.

39. South Dakota.—State Superintendent is ex-officio State High School Inspector.

Classification of schools made in accordance with standards adopted by "conference of city school executives."

40. Tennessee.—Two systems. Little or no coöperation.

41. Texas.—Three different classifications: one by State Department, one by State University, and one by Southern Commission. These coöperate and support each other.

State Department classifies all schools according to certain legal requirements and turns its highest class consisting of about 300 schools over to the State University for inspection. The University divides these schools into three groups according to the amount of work meeting good standards. The University inspectors report on weak schools to the State Department and on the strong schools to the Southern Commission besides making reports to the University.

There is practically no duplication of inspection. The State Department and the University work in perfect harmony.

The University makes up a list of accredited schools which is used by fifteen colleges in Texas in the admission of students. These colleges sign a written agreement to use the University list and report records of students to the Department of School Visitation in the University.

42. Utah.—"The school law requires the State Board of Education to appoint an inspector of high schools who is required to visit every high school in the state claiming the privilege of participation in the state high school fund at least twice each school year."—E. G. Gowans, State Superintendent. No inspection by University.

43. Vermont.—No inspection now, but law recently passed gives Board of Education power to appoint an inspector. Will probably have one soon.

44. Virginia.—State Board of Education employs three inspectors—one general, one looks after vocational subjects, and one has charge of certification of teachers.

University has inspector who reports to the University. The University inspector and the Board inspectors coöperate "as far as possible."

45. Washington.—Inspection under State Department. Purpose of accrediting: "The accrediting of specific courses of undergraduate work in the four-year high schools and in the one-, two-, and three-year high schools, is intended to standardize and establish a basis, and form a guide for the admission of students passing from one high school to another and for entrance to the elementary and secondary courses of the state normal schools."—High School Manual, page 99.

46. West Virginia.—Professor of Secondary Education in University is State Supervisor of high schools. Works under State Department. Reports made to State Department and list of schools prepared for University. Objects of visitation: stimulation of schools, to enforce requirements for state aid, and to classify schools for University and the Southern Commission.

47. Wisconsin.—Two systems—State Department and University. University uses "a relatively large number of members of faculty." Special men for special subjects.

48. Wyoming.—"High school inspection in Wyoming is in a developmental state. . . The University does not maintain a list of accredited schools."—J. E. Butterworth, Professor of Secondary Education.

III.

LIST OF OFFICIAL HIGH SCHOOL INSPECTORS IN THE UNITED STATES, 1914–1915

1. Alabama—J. S. Thomas, University; J. R. Rutland, Auburn.
2. Arkansas—B. W. Torreyson, Little Rock.
3. Arizona—No inspector.
4. California—Will C. Wood, Sacramento; W. Scott Thomas, Berkeley.
5. Colorado—Wm. A. Cook, Boulder.
6. Connecticut—F. E. Farrington, Yale University, New Haven.
7. Delaware—No inspector.

8. Florida—John A. Thackston, Gainesville.
9. Georgia—Joseph S. Stewart, Athens.
10. Idaho—No regular inspector. Edward O. Sisson, Commissioner, visits some schools.
11. Indiana—J. B. Pearcy, State House, Indianapolis.
12. Illinois University—H. A. Hollister; J. J. Didcoct, Urbana; State Department: J. C. Hanna, Springfield.
13. Iowa—State Department: J. C. McGlade, A. C. Fuller, Jr., Fred L. Mahannah, Des Moines. State Board: P. E. McClenahan, Leslie J. Reed, John E. Foster, Des Moines.
14. Kansas—W. H. Johnson, Lawrence.
15. Kentucky—McHenry Rhoads, Frankfort.
16. Lousiana—C. A. Ives, Baton Rouge.
17. Maine—Josiah W. Taylor, Augusta.
18. Maryland—State Department: M. Bates Stephens, Annapolis; B. K. Purdum, Annapolis. Johns Hopkins University: Edward F. Buchner.
19. Massachusetts—Clarence D. Kingsley, Ford Building, Boston.
20. Michigan—J. B. Edmonson, Ann Arbor.
21. Missouri—University: J. D. Elliff, Columbia. State Department: M. S. Neale, P. C. Callaway, and F. G. Irion, Jefferson City.
22. Mississippi—J. C. Fant, University, Miss.
23. Minnesota. State Board: E. M. Phillips, E. T. Critchett, Capitol Building, St. Paul.
24. Montana—H. A. Davee, Helena.
25. Nebraska—University: A. A. Reed, A. M. Voss, Lincoln. State Department: G. A. Gregory, A. O. Thomas, Lincoln.
26. Nevada—Reuben C. Thompson, Reno.
27. New Hampshire—H. A. Brown, George H. Whitcher, Concord.
28. New Jersey—A. B. Meredith, Trenton.
29. New Mexico—No inspector.
30. New York—Frank H. Wood, Chief Inspector, Albany; Elmer E. Arnold, 23 S. Main Ave., Albany; S. D. Arms, 782 Ostrom Ave., Syracuse; A. G. Clement, 387 Hamilton St., Albany; C. N. Cobb, 26 N. Pine Ave., Albany; R. T. Congdon, 101 S. Pine Ave., Albany; A. W. Skinner, Mexico; W. E. Bartholomew (Commercial Departments), 453 Western Ave., Albany; W. A. Holcomb (Training Classes), Fredonia; A. E. Hall (School Buildings), 635 Van Vranken Ave., Schenectady; W. D. Johnson (Training Classes), Cooperstown; A. C. Hill (Schools for Indians and Defectives), 865 Madison Ave., Albany; W. R. Price (Modern Languages), Lynbrook.
31. North Carolina.—N. W. Walker, Chapel Hill.
32. North Dakota—Richard Heyward, 834 Belmont Ave., Grand Forks.
33. Ohio—C. E. Oliver, East Palestine; E. F. Warner, Bellevue; W. E. Sealock, Oxford; F. E. Landsittel, Athens; George R. Twiss, Columbus; F. B. Pearson, Columbus; S. L. Eby, Kent; one vacancy.
34. Oklahoma—A. C. Parsons, Norman.
35. Oregon—No inspector. Schools visited incidentally by J. A. Churchill, Superintendent, and E. F. Carleton and Frank K. Welles, Assistants, Salem.

36. Pennsylvania—C. D. Koch, T. S. Marsh, W. M. Denison, and J. G. Pentz, State House, Harrisburg.
37. Rhode Island—Stephen S. Colvin, Brown University, Providence.
38. South Carolina—W. H. Hand, Columbia.
39. South Dakota—Charles H. Lugg, Pierre.
40. Tennessee—University: Harry Clark, Knoxville. State Department: Wm. R. Bourne, Nashville.
41. Texas—State Department: S. H. Whitley, Austin. University: J. L. Henderson, Thomas Fletcher, W. S. Taylor, and O. A. Hanszen, University Station, Austin.
42. Utah—Mosiah Hall, State Board of Education, Salt Lake City.
43. Vermont. No inspector.
44. Virginia—University: Charles G. Maphis, University. State Department: J. B. Terrell, E. E. Worrell, and A. L. Lincoln, Richmond.
45. Washington—Edwin Twitmyer, 810 East Denny Way, Seattle.
46. West Virginia—L. L. Friend, State House, Charleston.
47. Wisconsin—State Department: H. L. Terry and H. N. Goddard, Madison. University: Thomas Lloyd Jones, Madison.
48. Wyoming—J. E. Butterworth, Laramie.

The Universities and University Colleges of the British Isles and Commercial Education

L. F. Foster

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ANY reference to the subject of commercial education generally will, no doubt, be interesting to those residents of the United States of America engaged in either the educational or the commercial world; but when such education as affecting the British Isles is reviewed the reference will, perhaps, carry with it added interest. It is not proposed in the present article to make any kind of comparison between America and Britain in regard to the provision made by the respective Universities and University Colleges for the teaching and study of commercial subjects, for American readers are well aware of the work being done by their own universities in this respect and will be able, if it is thought necessary or desirable, to make their own comparisons and form their own judgments as to any details connected with the main purpose of this reference. All that this article claims is to set forth a series of statements, of facts chiefly, together with certain considerations bearing on those facts, and conclusions which one may reasonably draw from the material obtained.

Although Commercial Education is of recent origin compared with Academic Education in arts and science, yet the supposition that it has not for a considerable time existed, though perhaps known by no particular name or a different name, is erroneous, for it is evident that instruction of a primary character in single commercial subjects must have been, and indeed was, imparted long before the establishment of the older British universities by reason of the trade that existed at the time; but not till a comparatively recent date have subjects been so happily grouped as to form the foundation of a sound commercial education. Unlike some of the ancient arts which were pursued for the intense personal interest they evoked—though I do not mean to infer anything that would tend to minimize their importance—the study of commercial education in its full and broad sense came into existence by reason of the development of industry, out of which it has grown and in the wake of which it follows, and through the introduction of the machinery of business. Industry and commerce and commercial education work in harmony, are closely interwoven, and, in some respects, depend upon each other. On the one hand, if industry were non-existent there would be no need or scope for commercial education, for its very basis would be wanting, and on the other hand it may be claimed that by the aid of commercial education industry is improved in quality and increased in volume. Anything in the nature of an abnormality in the one has its effects, though perhaps in a greater or lesser degree, on the other. For instance, a panic or crisis in the money market, the study of which is essentially a practical part of the equipment necessary for a commercial education, may have the effect of causing a temporary stagnation of industry; similarly, disturbances of industry, say a strike or a lock-out, may immediately affect the money market in certain channels, to its detriment. This, at least, demonstrates the relation that exists between the two.

We may consider, perhaps, that the period of the industrial revolution marked the opportunity for the growth of commercial education in Britain. Were it not for the fact that industry is ever increasing we might have considered that commercial education reached its zenith in the first half of the nineteenth century, or soon after the invention of railways, but in light of more recent events, including the institution of compulsory elementary education in 1870, it is found that, as a matter of fact, it had only then begun to exert itself as an important factor in the world of trade. Since that time its development has taken unmistakable shape, till the present is a time in which it increases in importance at every stage of the development or improvement of industry in general.

Now, what may we take to be the requisites of commercial education? What qualifications ought we to look for as a result of such education? What *is* commercial education? Before the questions can be answered it is necessary to consider the depth of knowledge imparted by the various institutions claiming to make provision for such education. If the highest form is taken it is found that it includes in the various universities a thorough knowledge of one or more modern languages, other than English, accountancy, commercial and industrial law, business methods and organization, economics—including public finance, technique of trade, statistics, and the commercial seminar—banking, transport, railways, shipping, and preparation for the consular service—surely most comprehensive courses, containing subjects which are of the utmost importance to all persons seriously engaged in the commercial world. And what comprises the World of Commerce? Chiefly manufactures in all branches, including a multitude of subsidiary agents contributing to the efficacy and success of the main factors, shipping, railways, insurance, etc. The term "Commercial Education" is an elastic one and, while such a thorough education includes the above-quoted subjects, a knowledge of merely immediate office requirement is too frequently considered to be the limit of its intellectual range. A study of one or more branches of commercial education reveals the fact, however, that the all-too-commonly-accepted view of it is lacking in knowledge of the scope and number of its subjects, and that if examined the syllabus of subjects conveys to the inquirer the existence of an extensive and detailed knowledge of such subjects. It must be looked at, therefore, in a broad sense. Just as a person engaged in industry acquires a thorough knowledge of his particular technical branch, either by reason of his having served an apprenticeship or by long practical experience, so should a person having functions to perform which arise out of industry and its immediate agents likewise equip himself with, firstly, a broad outlook of industry in general, and, secondly, a specialized training in the particular branch in which he may choose his career. With the tide of specialization commercial education has developed into a science complete in itself, yet so connected with industry and commerce as to render it not only a subject of practical study, but one in which the student is compelled to continue and extend his knowledge with the variation or extension of its neighboring sciences and to adapt it to the conditions obtained from time to time.

The ultimate value of all higher education should be measured not by its initial cost in money, but by the broadness of outlook which it enables those receiving it to enjoy, the power by which one is able to adapt himself to new conditions and new surroundings, and the acquisition of self-confidence and self-discipline. There is no exception in the case of higher commercial education: its special characteristics should be, in addition to a thorough knowledge of the particular branch studied, the possession of alertness, resourcefulness, and farsightedness, together with an abundance of organizing ability to meet present demands and future requirements.

That there exists in Britain a demand for commercial education in various forms is evident. Till half a century ago the demand was comparatively weak, but since the extensive introduction of joint-stock enterprise and greater banking facilities, necessitating on the one hand and encouraging on the other a large increase of money transactions, consequent on greater activity in, and better organization of, trade, the demand has increased perhaps to a greater extent than adequate provision has been made to meet it. That the demand is uniformly distributed over the country in proportion to population is not evident, nor should we expect it to be so, for local industries and conditions in many cases determine what branch of further education is required, whether commercial or technical. How far the demand for commercial education is met in a particular district or to what extent advantage is taken of its provision are matters for the careful consideration of the organizers of education, but with regard to education of university status, and indeed much not of university standing, local industries and conditions do not altogether affect the kind provided, but rather by design or good fortune universities have become established in particular districts. Many circumstances operate to determine whether the choice of district has been a happy one, e. g., climate, the density of the surrounding population, etc. In the case of universities providing special courses their close proximity to particular areas is important, e. g., (i) in the case of Marine Biology one should have free access to the seaboard; (ii) a faculty in Mining requires that the university should be situated in a mining district for two reasons—that it may provide the necessary practical instruction in all branches of mining and that it may hope to attract the greater number of its students from that district; (iii) in the case of Surgery it is necessary that the university should be established in a district where students may freely visit hospitals; (iv) and similarly in the case of courses in commerce it is advisable, though not quite so necessary as in the other cases mentioned, that the university should be established in or near a commercial center, and it will be seen that the majority of the institutions in which such courses are provided are situated in centers of both industry and other commercial activity. So far as elementary commercial education is concerned it may be said that reasonable facilities appear to be provided by local authorities in those areas in which there exists a demand, and provided always that the district is large enough to warrant the subjects being introduced, if the demand increases, much scope exists locally for an extension of the instruction. In addition, many other special agencies exist for the teaching, by correspondence or otherwise, the subjects necessary for admission at least to the examinations of professional bodies. And with regard to examining bodies it is interesting to note that at one time the universities of Oxford and Cambridge instituted a system of examinations in commercial subjects which, however, the country was hardly ready to take full advantage of. These examinations ceased in course of time—in Oxford in 1892 and in Cambridge in 1894—by reason of "the demand for such an examination having proved to be quite insufficient to warrant this Board (Oxford Local Examination Board) in continuing to hold the examination." The several modern examining bodies have taken the place of these universities in the conduct of examinations in commercial subjects and it is said that they exercise a greater sympathy in respect of them than did the universities. The fact, however, serves as an index of the active interest taken by two of the older universities in education of this kind.

It will be well, perhaps, at this stage, to tabulate, and afterwards to examine into, the courses of study provided by the universities and university colleges in the British Isles, and it will be seen that in some cases degree courses of study in Commerce are provided and extend over a number of years, requiring full-time attendance at the universities. On the other hand, courses having in view no specific object are provided by some universities, whilst at others students aim at gaining the diploma or certificate of the institution.

TABLE I.

DEGREE COURSES IN COMMERCE

NAME OF INSTITUTION	INITIAL DEGREE		FUTHER DEGREE OBTAINABLE	DATE OF INSTITUTION OF DEGREE COURSES	REMARKS
	STYLE OF	APPROXIMATE TOTAL COST OF			
England.					
Birmingham, University of	B. Com.	$400	M. Com.	1902	
Durham, University of: Armstrong College	B. Com.	$260	M. Com.	1913	
Leeds, University of	B. Com.	$300	None	1905	
Liverpool, University of	B. Com. Sc.	$300	None	1909	Students may also take the degree by attending evening lectures.
London, University of: London School of Economics and Political Science	B. Sc. (Econ.)	$207	D. Sc. (Econ.)	1900	Students may also take the degree by attending evening lectures.
Manchester, University of	B. Com.	$200	M. Com.	1904	
Nottingham, University College	B. Sc. (Econ.)	$200	D. Sc. (Econ.)	1912	Students are prepared for the London degrees.
Southampton, Hartley University College	B. Sc. (Econ.)	$300	D. Sc. (Econ.)	1904	Students are prepared for the London degrees.
Scotland. Nil					
Ireland.					
Belfast, The Queen's University of	B. Sc.	$215	M. Sc., D. Sc.	1911	It is in contemplation to change the style of degrees to B. Com. Sc. and M. Com. Sec.
National University of Ireland					
Cork, University College	B. Com.	$175	M. Com.	1909	
Dublin, University College	B. Com.	$160	M. Com.	1909	
Wales. Nil					

N. B.—Residence at the institutions for three sessions is required in every case.

Six English and two Irish universities grant degrees in Commerce. For the London degrees students may be prepared in three institutions—the London School of Economics and Political Science in the University of London; University College, Nottingham; and Hartley University College, Southampton. For the Irish degrees students may be prepared in three institutions—Queen's University, Belfast, and the University Colleges of Cork and Dublin, constituent colleges of the National University of Ireland. It is reported that the London School of Economics was the leader among the institutions providing higher commercial education in Great Britain. The history of the school is interesting. It was established in 1895 and continued on an independent basis till 1900*—being supported by grants from the London County Council made under the Technical Instruction Act of 1889 (since repealed, bequests and fees) when it was admitted into the University of London as the "Faculty of Economics and Political Science, including Commerce and Industry," the work of the school having been of such a high order and in realization of the promise of the University of London to furnish some form of higher commercial education. Today the London School of Economics and Political Science takes a high place in the academic world of economics and commerce.

The courses provided at Birmingham appear to be the most comprehensive and practical, and under the direction of Professor Ashley, Dean of the Faculty—who at one time held a professorship at Harvard and came back to England with a full knowledge of American methods of higher commercial education—have gained much popularity in the district which the university serves. The Faculty was established in 1902* and it is claimed that it was the first of its kind to be established in England.

Though Commerce includes Economics and further subjects, it was not until 1905 that the University of Cambridge held the Economics Tripos.

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*The apparent discrepancy in the claims of the two universities (London and Birmingham) is explained by the fact that the London School of Economics centers its activities principally on Economics, whilst at Birmingham University practical Industry and Commerce receive special attention.

TABLE II

Diplomas and Certificates in Commerce

Name of Institution.	Length of Residence Necessary	Day or Evening Lectures	Approximate Total Cost	Date of Institution of Courses	Remarks
England.					
Birmingham, University of	One or more sessions	Day	Varies considerably according to subjects taken	1902	Pass certificates granted at end of each session. There is also a certificate course for journalists, started in 1907 and extending over two sessions.
Durham, University of:					
Armstrong College.......	Two sessions	Either	$110	1913	Diploma in Commerce.
Leeds, University of.......	Two sessions	Day	$100	1902	Diploma in Commerce.
Liverpool, University of....	One to two sessions	Day, and presumably Evening, too	$100 to $200	1911	Certificate in Commercial Sciences.
London, University of:					
London School of Economics and Political Science..	Two sessions	Either	$52	1906	Certificate in Commerce.
Manchester, University of..	Two sessions	Day chiefly, but some lectures are delivered in the evening	$100	1899	Higher Commercial Certificate. The Victoria University of Manchester was established in 1904, but these courses were given when it was known as Owens College, Manchester.
Nottingham, University College....................	Two sessions	Day	$100	1912	Diploma in Commerce.
	Three sessions	Evening	$5.50		Diploma in Commerce.
					Commercial Certificates, granted in conjunction with the Nottingham Chamber of Commerce, were obtainable prior to 1912.

TABLE II—*Continued.*

DIPLOMAS AND CERTIFICATES IN COMMERCE

NAME OF INSTITUTION	LENGTH OF RESIDENCE NECESSARY	DAY OR EVENING LECTURES	APPROXIMATE TOTAL COST	DATE OF INSTITUTION OF COURSES	REMARKS
England					
Reading, University College	Two sessions	Day	$210	1904	Diploma in Commerce. Fee includes course of lectures in France or Germany.
	One session	Day	$105		Certificate in Commerce.
	One or two sessions	Evening	$9		Certificate in Commerce.
South Hampton, Hartley University College	One session	Evening	From $1 to $2 per subject, per session	1908	At end of first year students may sit the examinations of the Royal Society of Arts and the London Chamber of Commerce.
	Two sessions	Evening			Eligible for the college Certificate in Commerce.
	Three sessions	Evening			Students in their second and third years are prepared for professional examinations.
Scotland.		*Nil*			
Ireland.					
Belfast, The Queen's University of	Two sessions	Either	$125	1911	Diploma in Commerce.
National University of Ireland, Cork University Col.	Two sessions	Day	$110	1910	Diploma in Commerce.
	One session	Day	$55		Certificate in Commerce.
Dublin, University of: Trinity College	One or more sessions	Day	$55 per session		Diploma in Economics and Commercial Knowledge.
Wales.		*Nil*			

Oxford University in 1904 instituted a diploma course in Economics and in 1909 added the subject of Political Science. Attendance as a day student for one session is necessary to qualify for the diploma. Also, the University College of South Wales and Monmouthshire, Cardiff, a constituent college of the University of Wales, instituted in 1913 a diploma course of instruction in Economics and Allied Subjects. Attendance as a day student for two sessions is necessary and the approximate total cost is $60. The establishment of a diploma in Commerce is at present under consideration at Cardiff College and it is to be hoped that its institution will not be long delayed, in view of the fact that abundant scope exists in that City and district for development in this direction.

The courses given at King's College, London, are not designed with any particular students in view, but form excellent general courses and comprise subjects required for some of the professional examinations in commerce. One or two institutions, however, carry out a large program in the subjects necessary for the higher commercial examinations. It will be seen, too, that all of the institutions in Table III make provision for evening classes. In addition, single courses bearing on commerce, e. g., economics, modern languages, etc., may be taken at many universities and university colleges by students who may be specially interested in such subjects, but the taking of them generally gives the person no standing in the university, nor does it count towards the courses necessary for an initial degree. The courses given at King's College are good examples. The Gilbart lectures on Banking Law, delivered annually since 1872 at King's College, are of special import to those engaged or interested in commerce, but more especially to persons engaged in banking. The lectures are delivered in the evening and admission is free, but permits must be obtained through managers of banks in London. The average attendance at these lectures is upwards of 200, which goes to show the popularity they enjoy. The University of Leeds, Armstrong College, and the North Eastern Railway Company coöperate in the establishment and maintenance of courses of special lectures in railway economics, railway operations, railway law, and railway geography. There has recently been established at Sheffield University a Commercial Course, though at present there is no diploma or cer-

TABLE III.

SPECIAL COMMERCIAL COURSES AND SUBJECTS

NAME OF INSTITUTION	LENGTH OF TIME REQUIRED FOR STUDY	DAY OR EVENING	COST	COURSES DESIGNED TO MEET EXAMINATIONS OF	REMARKS
Birmingham, University of	Sessional	Evening	$2 for course of ten lectures	Institute of Bankers	
London, University of: King's College	One session	Evening	$31 per term		These courses are in Commerce and Commercial and Industrial Law.
Nottingham, University College	Sessional	Either	$1.50 per session per course, otherwise $1.50 per special subject	Accountants, Bankers, and Secretaries professional examinations	Special Day Courses for Women in Secretarial work are provided.
Reading, University College	One or more sessions	Evening	From $1 to $1.50 per subject per session	Royal Society of Arts, London Chamber of Commerce, Institute of Bankers, and Accountants and Secretaries Societies	
Sheffield, University of	Two sessions	Either	From $2 to $3 per subject per session	Institute of Bankers chiefly, but others in a lesser degree	Students take the Commercial Course (five or more subjects).
	Two sessions	Either			Students take part of the Commercial Course.
Southampton, Hartley University College	One or more sessions	Evening	From $2 to $4 per session	Royal Society of Arts, London Chamber of Commerce, and the like	Courses to meet the examinations of the Royal Society of Arts were instituted in 1888, and the London Chamber of Commerce in 1908.

tificate available. The university already provides special lectures in railway economics and there is a department of Political Economy and Accounting in the university. It would not be surprising were the university shortly to establish a Faculty of Commerce, especially in light of its geographical position and the field of labor open to it in this respect, and the fact that its neighboring universities of Birmingham, Manchester, Liverpool, and Leeds, together with Armstrong College, Newcastle-upon-Tyne, all possess such a faculty.

We may now make a general survey of the institutions in light of the information contained in the tables. Although almost the whole of the universities and university colleges in the British Isles include modern languages and economics and political science in their courses of study, we may well ignore the subjects in themselves for this purpose, for it will be remembered that these are subjects which may be provided by an institution without any regard to the requirements of, or intention to provide for, commercial education, but as subjects for the Arts degree. A comparison, therefore, between England, Scotland, Ireland, and Wales will help us in the survey.

In England, out of 14 institutions of university rank, 11, or 79% of them, provide definite courses of instruction in commercial subjects. This percentage might well be increased when one recalls the extremely important part played by the country in the world of trade and finance. In Ireland the percentage is slightly higher. Out of five institutions in existence, four, or 80%, provide excellent courses in commerce. This is extremely gratifying. Scotland, with four universities, three of which are situated in great trading centers, and, therefore, specially lend themselves to an inclusion of the study in their curricula, make no provision whatever for any form of instruction in commercial education. This is regrettable in many ways. The Scottish universities are wealthy in themselves, some being handsomely endowed, whilst they do not lack a sufficient supply of pupils by reason of the comparative ease with which students may obtain bursaries to enable them to proceed to the universities. Apart from the diploma in Economics and Allied Subjects Wales makes no university contribution to commerce in any organized or definite form, though the University of Wales has attached to it three colleges at which courses in commerce could be organized. The Welsh colleges are precluded from extending their spheres of work by reason of the lack of funds. It may be here noted, too, that the three constituent colleges of the National University of Ireland receive more than double the annual government subsidy that the three constituent colleges of the University of Wales receive. Commercial Education of university status, therefore, is provided only in England and Ireland. Neither the relative population of the four areas nor the volume of trade carried on by each of them appear to have any necessary connection with the provision of higher commercial education. The reason why Scotland, for instance, undertakes no part in the training of men in commerce is a problem that remains to be solved. There is room in the country for much to be done in higher commercial teaching and the inauguration of commercial courses would be amply justified by the additional prestige the inclusion of the study of commerce would give to the universities and the additional popularity they would enjoy with the commercial community.

A comparison in another direction reveals the fact that in almost every case those institutions providing courses in commerce are of modern establishment, for out of the fifteen institutions in England and Ireland only one was established in the sixteenth century—this, however, confers only a diploma—twelve in the nineteenth century and two at the beginning of the present century. Of the institutions in the British Isles which do not provide any such courses, three were established in the fifteenth century, two in the sixteenth, one in the seventeenth, and one in the nineteenth. This shows clearly that as a rule the newer the institution the better prospect there is of the establishment of courses in commerce. Why is this? Simply because the prejudices of the older institutions for anything but pure science, arts, medicine, and law are so strong as to preclude the adoption of this comparatively new, but highly important, study as not being in keeping with the ancient traditions of the universities. Until these traditions are built over by the force of popular opinion of the modern commercial community—and they soon would be in the United States of America—and the governing bodies brought to realize that higher commercial education is a study with tremendous prospects for the future, they must rest content on the fruits of their past history and achievements. Even these become as mere phantoms in the present era of trade and manufactures. As demonstrating the case of the Scottish universities in this respect it may be observed that all of them were established by the sixteenth century. They are, therefore, good examples of the conservatism inherent in the national temperament; though in the arts and sciences the Scottish universities take a foremost place.

The most surprising feature of the whole survey is that Commerce, ranking historically perhaps next to Agriculture, had been neglected so long by the universities. In the past they were chary of experimenting with this new science in face of the strong current of popular opinion in its favor. Now that in England and Ireland a good beginning has been made in the universities and university colleges in this direction we may confidently hope that the influence they can exert in favor of the other established organizations will be healthy and uplifting.

An analysis of the whole of the instruction provided by the institutions shows the following to be the case: (i) that an extensive program is prepared for students desirous of taking the highest form of commercial education—that leading up to a university degree—at the institutions named in Table I. Students who have passed through these courses are well qualified to undertake, in course of time, positions as directors, managers, and other officers having for their duties the direction and superintendence of manufactures, railways, shipping, etc., as teachers of the subjects mastered, as members of the staff of the Consular service, and as administrative officers; (ii) that a somewhat limited syllabus is provided for candidates taking the diploma or certificate at one of the institutions named in Table II. Such candidates may expect to perform many of the functions undertaken by those possessing the degree, though as regards academic standing there exists a considerable gulf between the two classes; and (iii) that the instruction provided at the institutions enumerated in Table III is on a much narrower scale.

In view of the large number of people engaged in commercial pursuits the study of commercial education forms one of the most important of the modern subjects of study. It should attract the attention of the whole Commercial Army, numbering some hundreds of thousands. The future probable attainments that will be required of those engaged in the commercial world renders the study one which impresses high ideals on the minds of those desirous of advancement. It must always be remembered, too, that syllabuses of commercial education should make adequate provision not only for the man who has presumably mastered the intricacies of his own sphere of business, but for the rawest recruit straight from the day school, and the courses must be graded accordingly. Such being the case we may well ask what part the universities and university colleges are taking in the training of the commercial classes and as an instance may select the accountancy, actuarial, banking, insurance, and secretarial professions as comprising an important intermediate grade. As students proposing to qualify in the various branches of commerce look with much favor on the diplomas and certificates of professional bodies, as also do employers, the case of such students must necessarily receive the attention that it demands in any article dealing with commercial education, especially in view of the fact that few students of the various branches of commerce can hope to obtain a university degree. The great majority of the young men engaged in the commercial world enter into it direct from school, and those who mean to qualify in some particular branch do so in their spare time. These young men are generally not in a position to pay the cost of a university education for the degree or diploma, and, indeed, day attendance at the institutions is, in almost every case, necessary. These two aspects, therefore, preclude the possibility of their rising to university status. At London and Liverpool universities, however, the degree may be obtained by attendance at evening lectures and the diploma so obtained at more than half of the institutions included in Table II, but institutions providing evening lectures can only hope to attract students who are fortunate enough to reside in the locality in which the institution is situated.

It will be seen that comparatively few institutions organize any full courses of instruction designed to meet the examination requirements of professional bodies that grant diplomas in groups of subjects of commercial study, but in many cases the instruction that is provided may be highly beneficial to students who wish to use the institutions as avenues through which to qualify in some of the subjects required. Universities and university colleges providing courses in commerce frequently meet with little support from the many professional bodies now existing. This is undoubtedly due to lack of relationship between the professional bodies and the universities and to facilities wanting for representation of professional bodies on the governing bodies of the universities; but in a very few cases representatives of the local chambers of commerce and of some professional bodies may become, and as a matter of fact are, useful members of the faculty. It is hardly to be wondered that as few institutions make adequate provision for such commercial education, seeing that many of them would, by making such provision, tend to saddle unduly their academic work with much that is not of university standing, perhaps to the detriment of university work. At the same time it would perhaps be mutually helpful were closer relationship established between the universities and the professional bodies. But it cannot be denied that universities and university colleges have, where possible, and where the demand existed, coupled with adequate support, both moral and financial, carried out wholeheartedly schemes for the provision of *higher* commercial education, and frequently this has been the case in face of little or no financial support being forthcoming and even at a considerable annual loss to the institutions. The only motive actuating the governing bodies in so doing has been their profound desire to carry out efficiently their functions as centers of higher study and of specialized teaching.

A Study of the Preferences of Secondary School Pupils for the Various Subjects and of the Ranking of the Various Subjects on the Basis of Utility as Judged by the Pupils

J. C. Brown, University of Illinois, and J. H. Minnick, Philadelphia, Pa.

THE object of this investigation was to secure definite information in regard to several questions which are of great importance to the supervisor and the teacher of the secondary school. These questions are:

I. What subjects of the secondary school are preferred by the pupils?

II. What subjects do the pupils believe will be of most value to them after their formal education is completed? What are the reasons for naming these subjects?

III. What subjects do the pupils regard as the most useless? Why?

IV. What subject would a pupil drop, if permitted to do so? Why?

Most educators will admit that *genuine* interest in a subject lies very near the basis for successful work in it. A subject may be very interesting to an adult and very uninteresting to a boy or girl in the secondary school. Some modern educators seem to interpret interest in a subject largely in terms of their own, rather than in terms of the pupil's interest. If interest in a subject is a prominent factor in the successful pursuance of it, surely the child's rather than the adult's interest in the subject should be a matter of great concern to supervisors and teachers. A study of the preferences of the pupils for the various subjects and of their reasons for considering a subject useful or useless suggests many important queries.

1. If it be found that a given subject ranks high in preference, the question at once arises, why this is true. Is it because of

something inherent in the subject itself, or is it because of the way in which the subject is taught? To what extent does the pupil's attitude towards a teacher affect his preference for the subject? Do pupils prefer the academic or the vocational and industrial subjects? Do they prefer subjects that require a high degree of effort? Are the elective or the required subjects ranked higher in the pupil's preference?

2. What are the reasons which the pupils believe justify a subject? To what extent do these reasons correlate with the adult point of view?

3. Why do pupils regard some subjects as useless? Can these subjects be so reorganized and so taught, without detriment to the subject, that they will rank higher in the pupil's preference?

4. Is the subject which the pupil wishes to drop the one which he regards as most useless? Why does he wish to drop the subject? With reference to many of the queries above we may ask how the preferences of girls and boys compare.* Do girls and boys regard the same type of subject as the most useful or as the most useless? Are the reasons assigned for the like or the dislike of a subject the same? How does achievement in a given subject correlate with preference for that subject?

In what respect should the answers to the above questions, with reference to the school in which I am a supervisor or a teacher, alter the organization and presentation of each of the subjects? What account should really be taken of the pupil's point of view?

The authors have not the ability to answer all of the questions just proposed. They are questions of great importance to the alert supervisor and teacher, however, and the data which follow furnish a basis for answering some of these questions with reference to particular schools. It is not assumed that all schools are alike, any more than it is assumed that all individuals are alike. The present study includes the data from two private secondary schools of New York City—The Horace Mann School for Boys and The Horace Mann School for Girls. These are six-year high schools, the course beginning with the work of the seventh school year.

The data which are recorded in this article were secured by means of the questionnaire which is reproduced below. The questionnaires were distributed by the school supervisors, in order to eliminate, as far as possible, any tendency on the part of pupils to give answers which they thought might please some particular teacher. The pupils knew nothing of the purpose of the questionnaire. Each pupil was given as much time as was necessary to answer all of the questions.

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*A Comparative Study of the Mathematical Abilities of Boys and Girls, School Review, February, 1915.

QUESTIONNAIRE

Name............................... Class...................................
School.............................. Date....................................

(In answering the questions do not take into account graduation or college entrance requirements.)

I. In the list of subjects below, check each subject now on your program, then number each subject that you have had or are now having, in the order of your preference. (Indicate by Number 1 the subject that you like best, by Number 2 the subject which you like next best, etc.)

(Then followed a list of all the subjects of the curriculum arranged in alphabetic order.)

II. What two subjects that you have had or are now having do you think will be of most value to you after you leave school and college? Name the most useful first.

III. Why do you think that the subjects mentioned in answer to Question Two will be of most value to you?

IV. What subject of all that you have studied or are now studying do you consider to be the most useless? Why?

V. If you are permitted to drop any subject now on your program, what one would you drop? Why?

All of the per cents. which follow were computed in terms of the number who have studied or are studying the subject. It would obviously be unfair, for example, to compare the data secured from the 22 in the boys' school who are taking Chemistry with that of the 218 who are taking English.

The questionnaire was answered by 225 boys and by 272 girls.

The answers to each of the above questions will now be considered.

Question I. In the list of subjebts below, number each subject that you have studied, in the order of your preference.

TABLE I.

Subjects	Choice	JUNIOR HIGH SCHOOL						SENIOR HIGH SCHOOL						Totals		Grand Total
		First Year		Second Year		Third Year		Fourth Year		Fifth Year		Sixth Year				
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Algebra	1			31		56	7	31	9	10	8	14	5	32	7	21
	2			35		18	17	13	13	20	5	8	5	18	10	16
	3			8		16	9	11	0	7	0	23	5	13	4	10
	Last			0		0	12	5	13	7	10	4	16	3	13	9
Arithmetic	1	22	17	0	11									9	14	11
	2	29	9	12	20									16	14	15
	3	11	4	4	7									7	5	6
	Last	2	31	0	17									2	19	12
Art	1	5		4	9	0	5	0	5					3	4	3
	2	3		0	7	3	3	3	7					2	7	5
	3	10		4	15	3	8	0	5					5	9	7
	Last	48		35	13	43	30	3	5					35	15	26
Chemistry	1									41			4	41	4	21
	2									18			16	18	16	17
	3									9			8	9	8	9
	Last									9			0	9	0	4
English	1	16	24	4	4	12	38	11	35	27	37	18	50	14	31	23
	2	22	26	19	15	8	26	18	25	3	13	7	5	13	19	16
	3	16	22	8	24	18	24	13	20	3	15	15	17	13	21	17
	Last	2	8	4	15	2	0	2	6	3	2	3	0	4	7	5
French	1	4	5	0	0	0	22	0	6	6	9	13	3	5	7	6
	2	11	18	10	7	0	6	15	18	6	17	0	18	7	14	12
	3	15	21	0	13	15	22	15	12	28	20	22	15	22	17	18
	Last	7	5	10	23	15	3	15	6	3	6	0	3	11	7	8
Geography	1	4	11										5	4	9	7
	2	16	19										5	16	13	14
	3	11	30										0	11	18	16
	Last	4	6										8	4	7	6
Geometry	1							15	23	20	7	11	7	18	12	13
	2							10	13	17	7	18	5	18	8	11
	3							15	13	13	17	7	7	13	12	12
	Last							0	19	0	7	0	12	0	13	7
German	1	21	9	0	0	13	16	9	13	4	4	4	5	9	8	8
	2	5	18	11	0	20	0	6	3	9	14	13	10	9	8	9
	3	5	18	0	20	13	8	12	22	13	11	8	14	9	16	13
	Last	0	0	0	10	13	30	3	10	0	4	4	16	6	11	7
History	1	11	19	23	18	15	5	9	17	3	18	15	10	13	14	13
	2	20	11	8	15	30	19	6	17	10	15	8	10	15	15	15
	3	16	6	31	13	11	5	15	19	13	33	19	22	17	15	16
	Last	2	13	0	15	0	2	3	8	0	7	4	12	2	9	8

TABLE I—*Continued*

Subjects	Choice	Junior High School						Senior High School						Totals		Grand Total
		First Year		Second Year		Third Year		Fourth Year		Fifth Year		Sixth Year				
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
Household Arts (Girls) Man. Training (Boys)	1	31	19	23	29	18	2	10	0	0	15			18	10	12
	2	11	9	8	15	23	7	3	5	0	18			10	12	11
	3	4	15	8	9	8	7	7	2	8	15			7	10	9
	Last	2	31	15	13	0	27	10	27	0	18			9	23	16
Hygiene	1						5	14						14	5	10
	2						10	11						11	10	10
	3						5	22						22	5	11
	Last						0	0						0	0	0
Latin	1			12		9	17	12	5	0	3	4	5	8	8	8
	2			12		15	14	23	10	4	9	0	16	11	12	12
	3			20		15	14	9	12	7	3	8	0	13	8	11
	Last			4		4	14	15	20	11	44	25	24	11	29	18
Physics	1										6	5		5	6	6
	2										12	16		16	12	14
	3										6	5		5	6	6
	Last										12	11		11	12	11
Science	1				20		4		6						10	10
	2				9		0		9						7	7
	3				7		15		17						12	12
	Last				11		14		12						12	12
Trigonometry	1											0	13	0	13	7
	2											0	13	0	13	7
	3											42	13	42	13	26
	Last											0	0	0	0	0

(Indicate by Number 1 the subject that you like best, by Number 2 the subject that you like next best, etc.)

Algebra	Geography	Hygiene
Arithmetic	Geometry	Industrial Arts
Art	German	Latin
Chemistry	Grammar	Manual Training
English	History	Physics
French	Household Arts	Trigonometry

We shall rank the subjects for the boys and for the girls, (1) as judged by the first choice, (2) as judged by a combination of the first, second, and third choices, and (3) as judged by the last choice. We shall then make similar rankings of the subjects using the combined data for the boys and girls. We shall also compare the popularity of the various subjects in the earlier and later years.

Table I gives the per cents. of pupils naming each subject as first, second, third, and last choice. The per cents. are based on the number who have taken or are now taking the subjects. Thus, in the first year, of all the boys who have taken or are taking art, 5 per cent. gave it as their first choice, 3 per cent. gave it as their second choice. The per cents. in this table and in the tables which follow were not computed beyond the nearest whole number except in the case of a tie. The rank of the subjects is indicated in Table II. Thus chemistry was given as first choice by the largest per cent. of boys, algebra was given as first choice by the next largest per cent. of boys, etc. In order to better compare the preferences of boys and girls general science, which does not occur in the curriculum of the boys' school, has been omitted from this and other tables where such comparisons are made. If we consider this subject it ranks between household arts and geography. If we combine the data for arithmetic, algebra, geometry, and trigonometry, mathematics will rank first in preference among the boys and third among the girls. A combination of the data for hygiene, chemistry, and physics gives a rank of second for science among the boys and twelfth among the girls.

TABLE II.

RANKING OF SUBJECTS AS JUDGED BY FIRST CHOICE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Chemistry	Algebra	Geometry	Manual Training	English	Hygiene	History	Arithmetic	German	Latin	Physics	French	Geography	Art	Trigonometry
Girls	English	History	Arithmetic	Trigonometry	Geometry	Household Arts	Geography	Latin	German	French	Algebra	Physics	Hygiene	Chemistry	Art

In combining the first three choices the weights 5, 3, and 1 were arbitrarily assigned to the first, second, and third choices respectively. Thus, in the case of algebra for the boys, 32 was multiplied by 5, 18 by 3, and 13 by 1 and these products were added. The subjects, each having been dealt with in this manner, were ranked according to the resulting sums. The ranking of the subjects on this basis is given in Table III. Thus, in the case of the boys, the sum obtained from the combination of the first, second, and third choices, as above described, was greatest for chemistry, next to the greatest for algebra, etc. General science, if included among the subjects of the girls' school, would rank between Latin and German.

TABLE III.

Ranking of Subjects as Judged by Combination of First Three Choices

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Chemistry	Algebra	Geometry	History	Manual Training	Hygiene	English	Arithmetic	Latin	German	Geography	Physics	French	Trigonometry	Art
Girls	English	History	Arithmetic	Trigonometry	Geography	Geometry	French	Household Arts	Latin	German	Chemistry	Physics	Algebra	Hygiene	Art

The subjects ranked according to last choice are given in Table IV. It is to be remembered in studying this table that the higher the rank of a subject the smaller the per cent. of pupils who gave it as last choice. Thus in the boys' school geometry was given as last choice by the lowest per cent. of pupils, hygiene by the next lowest per cent., etc. If we include general science among the subjects of the girls' school it takes a rank between German and physics.

TABLE IV.

Ranking of Subjects as Judged by Last Choice

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Geometry	Hygiene	Trigonometry	History	Arithmetic	Algebra	English	Geography	German	Chemistry	Manual Training	French	Latin	Physics	Art
Girls	Chemistry	Trigonometry	Hygiene	English	French	Geography	History	German	Physics	Algebra	Geometry	Art	Arithmetic	Household Arts	Latin

In order to summarize the rankings given in Tables II, III, and IV, the ranks indicated above a given subject in each of the tables were added and the subjects were arranged according to these sums. Thus, in the case of algebra for the boys, numbers 2, 2, and 6 were added. It is to be remembered that the smaller the sum the higher the rank of the corresponding subject. The resulting rank is given in Table V. The mathematical subjects rank somewhat higher in the preference of the boys than of the girls. Strangely enough trigonometry holds a high place in the preference of the girls while it ranks low among the boys. However only a few pupils have studied trigonometry and any conclusions based on such a limited number of cases are not reliable. Frequently we hear it said that girls find algebra more interesting than geometry. Our data are decidedly in favor of the opposite statement. English and history rank fairly high among both boys and girls while the foreign languages, in general, occupy rather a low position among the subjects. It is to be noted, however, that French ranks fairly high in the preference of the girls. If we include hygiene and geography, the scientific subjects are distributed somewhat uniformly from a fairly high to a rather low rank. The industrial subjects, including art, are not among the popular subjects. It is especially worthy of note that in the girls' school the subject of household arts, which is taken by a large number of the girls, is not popular.

TABLE V.

Summary of Rankings Given in Tables II, III, IV, and V

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Geometry	Algebra	Chemistry	Hygiene	History	English	Manual Training	Arithmetic	German	Latin	Geography	Trigonometry	French	Physics	Art
Girls	English	Trigonometry	History	Geography	Arithmetic	French	Geometry	Chemistry	German	Household Arts	Hygiene	Latin	Physics	Algebra	Art

Table VI was formed from the general summary of Table I in the same manner that Tables II, III, IV, and V were formed from the totals for boys and for girls of Table I. As an illustration, there were seven subjects each given as first choice by a per cent. of boys and girls which was larger than the per cent. giving hygiene as first choice. This is indicated in the first line of the table. Also if the combined data for the first, the second, and the third choices be united in the manner described in the discussion of Table III, and the subjects arranged according to the resulting sums, hygiene ranks ninth in order, as indicated in the second line of Table VI. The third line of this table indicates that hygiene, for example, was given as last choice by a smaller per cent. of pupils than any other subjects. If now the numbers indicating the rank of each subject in each of these three cases (for hygiene 8, 9, 1) be added and the subjects arranged according to the resulting sums, hygiene will rank sixth. This last ranking of subjects, given in the fourth line of the table, represents a summation of all the data of Question I. This table leads one to practically the same conclusions as those reached in consideration of Table V. With the exception of trigonometry, the mathematical subjects occupy fairly favorable positions. It is worthy of note that arithmetic ranks considerably lower than algebra and geometry. Again English and history occupy a high place, while the foreign languages are found among the lower half of the subjects. The sciences are distributed among the subjects from a high to a low position, and the industrial subjects are among those less favored.

We shall now consider the subjects which continue through three or more years with a view to comparing the rank of a given subject in the earlier years with its rank in the later years. Space will permit a consideration of only the first choice. Too much importance must not be attached to these results, for it must be remembered that we are not comparing the preferences of the same pupils through a period of three or more years, but we are comparing the preferences of pupils in the lower school years with those of pupils in the higher school years.

TABLE VI.

RANKINGS OF SUBJECTS AS JUDGED BY THE COMBINED DATA FOR BOYS AND GIRLS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Rank According to First Choice	English	Chemistry	Algebra	History	Geometry	Manual Training Household Arts	Arithmetic	Hygiene	General Science	Latin	German	Geography	Trigonometry	Physics	French	Art
Rank According to First, Second, and Third Choices	English	Chemistry	Algebra	History	Geometry	Arithmetic	Manual Training Household Arts	Geography	Hygiene	Latin	French	General Science	Trigonometry	German	Physics	Art
Rank According to Last Choice	Hygiene	Trigonometry	Chemistry	English	Geography	German	Geometry	History	French	Algebra	Physics	General Science	Arithmetic	Manual Training Household Arts	Latin	Art
Summary of the Three Rankings	English	Chemistry	History	Algebra	Geometry	Hygiene	Geography	Arithmetic	Manual Training Household Arts	Trigonometry	German	General Science	French	Latin	Physics	Art

TABLE VII.

WHAT TWO SUBJECTS OF ALL THAT YOU HAVE STUDIED OR ARE NOW STUDYING DO YOU CONSIDER THE MOST USEFUL? THE FOLLOWING TABLE INDICATES IN PER CENTS. THE NUMBER NAMING EACH OF THE SUBJECTS AS 1ST AND 2D FROM THE POINT OF VIEW OF USEFULNESS. FOR ILLUSTRATION, 76% OF THE BOYS AND 47% OF THE GIRLS NAMED ARITHMETIC AS THE MOST USEFUL SUBJECT; 18% OF THE BOYS AND 31% OF THE GIRLS NAMED IT SECOND IN USEFULNESS.

Subjects			Algebra		Art		Arithmetic		Chemistry		English		French		Geography		Geometry		German		History		Household Arts and Manual Training		Hygiene		Latin		Physics		Science		Trigonometry	
			1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d	1st	2d
JUNIOR HIGH SCHOOL	First Year	B			5	5	76	18			13	44	7	4	2	6			16	0			0	9										
		G					47	31			22	24	2	4	10	18			0	0	5	2	9	18										
	Second Year	B	52	5	0	0	31	10			19	19	0	30					0	2	8	11	3	8			4	14						
		G			0	0	31	37			42	13	0	10					0	0	0	7	24	26							0	7		
	Third Year	B	46	16	0	0					20	38	8	23					20	43	5	5	3	8			11	17						
		G	4	8	0	0					50	17	3	12					20	20	14	5	7	14	7	24	9	9			0	0		
SENIOR HIGH SCHOOL	Fourth Year	B	5	8	0	0					32	8	23	31			45	20	18	16	0	3	0	3	6	6	3	16						
		G	2	2	0	0					52	19	6	6			6	16	13	3	6	29	0	10			7	5			11	0		
	Fifth Year	B	0	10	3	0			14	9	43	22	5	16			13	13	0	13	0	3	0	4			3	3						
		G	3	3	0	0					43	15	12	9			10	10	0	25	9	26	6	20			6	3	0	12				
	Sixth Year	B	0	10							43	4	9	18			11	4	13	4	5	16					0	13	22	22			8	0
		G	0	0					0	11	69	12	3	8	0	0	0	0	9	9	5	34	12	24	0	5							25	19
Summary		B	22	11	2	1	59	36	14	9	26	25	6	18	2	6	22	13	14	16	5	10	1	5	6	6	5	15	22	22			8	0
		G	2	2	0	0	40	34	0	11	45	17	5	8	6	10	5	8	6	10	6	16	10	19	7	24	6	6	0	0	2	3	27	20
Gen.Sum.			13	7	2	1	45	35	8	10	37	21	6	9	5	10	12	10	9	12	5	12	7	14	6	17	5	10	11	17			19	11

Among the boys there is, in general, a decline in the preference for algebra, art, manual training, Latin, and German. It is to be noted that, although the preference for algebra declines, the per cent. of pupils giving this subject as first choice is at no time small. The preference for English, French, geometry, and history fluctuates from year to year. In the case of German and Latin the preference fluctuates from year to year, but from the first to last there is a decided decrease. Among the girls there is a decline in the preference for art, geometry, Latin, and general science. The preference for algebra, French, German, history, and household arts fluctuates from year to year. In the case of English there is a fairly steady increase.

A study of Table VII indicates that on the basis of usefulness the subjects ranked as shown in Tables VIII and IX. The most useful is named first. The absence of a line between subjects in these tables indicates an exact tie between such subjects.

TABLE VIII.

Rank of Subjects Based on First Choice Only

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Arithmetic	English	Physics	Geometry	Algebra	German	Chemistry	Trigonometry	French	Hygiene	Latin	History	Geography	Art	Manual Training
Girls	English	Arithmetic	Trigonometry	Household Arts	Hygiene	History	German	Latin	Geography	French	Geometry	Algebra	Physics	Art	Chemistry

The ranks given in Table IX are based on weighted values computed as in Table III (1st choice 5, 2d choice 3).

By a combination of the data from the boys' school with that from the girls' school the following ranking of subjects on the basis of usefulness is obtained.

Some of the contrasts in rank on the basis of usefulness are very interesting. For example, physics is ranked high by the boys and very low by the girls. Algebra and geometry are ranked

TABLE IX.

Rank of Subjects Based on First and Second Choices

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Arithmetic	English	Physics	Geometry	Algebra	German	Chemistry	French	Latin	History	Hygiene	Geography	Trigonometry	Manual Training	Art
Girls	Arithmetic	English	Trigonometry	Hygiene	Household Arts	History	Geography	German	Geometry	French	Latin	Chemistry	Algebra	Art	Physics

TABLE X.

Rank Based on the Combination of the Data From Boys' and Girls' Schools

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rank Based on First Choice	Arithmetic	English	Trigonometry	Algebra	Geometry	Physics	German	Chemistry	Household Arts Manual Training	Hygiene	French	History	Geography Latin	Art
Rank Based on First and Second Choices	Arithmetic	English	Trigonometry	Physics	Hygiene	Geometry	German	Household Arts Manual Training	Algebra	Chemistry	History	French	Geography Latin	Art

higher by the boys than by the girls, as might be expected, when ranked solely ont he basis of utility. History is ranked higher by the girls than by the boys. The modern languages occupy about the middle position in all of the lists. Household arts occupies a much higher rank among the girls than manual training among the boys. It is interesting to note that the ranking of subjects on the basis of usefulness is not the same as the ranking on the basis of preference. The correlations will be presented in a later article.* It is apparent, however, that practical utility, as judged by the pupil, is not the only factor in determining preference for a subject.

Question III. Why do you think the two subjects mentioned in answer to Question Two will be of most value to you?

The various reasons assigned by the pupils as the basis for judging subjects to be the most useful may be grouped under the following five headings:

1. Utility in the business, vocation, or profession which the pupil expects to enter.
2. Knowledge value. The value of knowing a thing because a knowledge of it is assumed to be a necessary part of a liberal education.
3. Utility in travel. (For example, the advantage of being able to read and speak the modern languages.)
4. Cultural value.
5. Academic value. The value that a subject has because it is essential to the mastery of some other subject which the pupil believes will be of real value to him.

No attempt is made here to define each of the above headings. They seem to the writers to serve the purpose as well as others that might be used.

While the pragmatic point of view is very apparent among both the boys and the girls, it is more dominant among the boys. The following ranks were obtained by a classification of the above reasons. The reason most frequently stated is here given first.

Boys.	Girls.
Utility in business, vocation, or profession	Knowledge value
Knowledge value	Utility in business, vocation, or profession
Utility in travel	Utility in travel
Academic value	Cultural value
Cultural value	Academic value

It is especially worthy of note that the cultural value of subjects appeals much more strongly to the girls than to the boys. It seems quite natural that utility in business, vocational, and professional life should appeal most strongly to boys. The two subjects indicated by both girls and boys as being the most useful in business, vocation, and professional life are mathe-

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[3] Teachers College Record, Columbia University, November, 1915.

matics and English. On this basis mathematics is ranked first by both boys and girls. Boys rank English first and mathematics second on the basis of knowledge value. The girls rank English first and household arts second on the same basis. It is interesting to note that although the girls believe that household arts ranks high on the basis of knowledge value, the subject does not rank high on the basis of preference. French, German, and geography are justified very largely on the basis of utility in travel. Some pupils justify them on the basis of general knowledge value. Physics and chemistry are justified by the boys on the basis of utility in business, vocational, or professional life. They are mentioned by but few of the girls.

Latin, algebra, geometry, and history are justified by some of the girls on the basis of their cultural value. The cultural value is almost entirely ignored by the boys. Hygiene is justified on the basis of knowledge value. Latin is justified by some pupils on the basis of academic utility.

Question IV. What subject seems to you to be the most useless? Why?

It is not to be assumed that because a subject is rated by but few pupils as having the least value it would, therefore, be ranked by these pupils as having high value. Tables VIII, IX, and X furnish a check on this.

In Table XI the subjects are ranked on the basis of the per cent. of pupils taking a subject who named it as most useless. The figures indicate the per cents. for the various subjects. For example, 2% of the boys who are studying German named it as the most useless subject.

Table XII states the corresponding data for boys and girls combined.

Some interesting comparisons may be made from the rankings above. One is impressed by the fact that art and Latin are ranked so low in the scale by both boys and girls. The per cents. indicate that these two subjects are considered as decidedly the lowest. It is interesting to note that the girls rank algebra higher than geometry and that trigonometry is ranked very high in the scale by the girls.

The question at once arises, if a given subject is rated by a large number of pupils as a useless subject, how may the subject matter be reorganized and the method of presentation altered to make the subject appeal to the pupils more strongly from the

TABLE XI.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Boys	Arithmetic 0	Physics 0	German 2	Geometry 3	French 3	Algebra 5	Chemistry 5	English 5	Manual Training 8	Trigonometry 8	Geography 11	History 14	Hygiene 14	Latin 38	Art 42
Girls	Hygiene 0	Physics 0	Trigonometry 0	English 2	Geography 2	Chemistry 4	Arithmetic 4	French 6	German 6	Household Arts 8	History 8	Algebra 13	Art 23	Latin 24	Geometry 25

TABLE XII.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Physics 0	Arithmetic 2	English 3	Geography 4	German 4	Trigonometry 4	Chemistry 4	French 5	Hygiene 6	Household Arts 8 Manual Training 8	Algebra 9	History 10	General Science 13	Geometry 15	Latin 31	Art 32

point of view of utility. This is an important matter for teachers and supervisors.

It should be noted that the rank of the subjects on the basis of uselessness does not correspond to the reverse ranking on the basis of preference. It is apparent that the utility value of a subject, and the lack of utility of a subject, as judged by the pupil, are factors in determining preferences, but they are not the only factors.

The reasons assigned by pupils for considering a given subject as useless were the negatives of the reasons assigned in answer to Question III.

Question V. If you were permitted to drop any subject now on your program, what subject would you prefer to drop? Why?

In Table XIII, the subjects are ranked on the basis of the per cent. of pupils who wish to drop them. For example, 5% of the boys who are taking English prefer to drop it.

TABLE XIII.

RANKING OF SUBJECTS BASED ON THE PER CENTS. OF PUPILS WISHING TO DROP THEM

Choice		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rank of Subjects for Boys and Girls separately	Boys	Arithmetic 0	Geography 2	English 5	Physics 6	Chemistry 9	Algebra 9	Geometry 10	Manual Training 10	German 10	French 13	History 17	Trigonometry 17	Hygiene 24	Art 40	Latin 42
	Girls	Physics 0	Hygiene 0	Chemistry 0	Geography 2	English 3	Trigonometry 7	Algebra 8	History 10	Household Arts 11	French 11	Arithmetic 14	Geometry 20	German 21	Art 26	Latin 35
Rank of Subjects for all students on basis of combined data from Question V		Geography 2	Physics 3	English 4	Chemistry 7	Arithmetic 8	Algebra 9	Household Arts 11 Manual Training 11	Hygiene 11	Trigonometry 11	French 11	History 13	Geometry 15	German 15	Art 33	Latin 39

Among the subjects of the boys' school manual training occupies the middle position while household arts ranks slightly lower among the subjects of the girls' school. The foreign languages rank comparatively low for both boys and girls. Contrary to what might be expected the girls are slightly more disposed to drop English than are the boys, while the desire to drop history is decidedly greater among the boys than among the girls. It is also worthy of note that of all subjects in the girls' school the sciences rank highest on this basis. (However, general science, if included, would rank much lower, as it would take a place between French and arithmetic.) On the other hand boys rank the sciences, especially hygiene, much lower. Among the boys the mathematical subjects are distributed from the highest to a low rank, while they are grouped somewhat more centrally and also somewhat lower in the case of the girls. However, trigonometry, which is the lowest of the mathematical subjects among the boys, is the highest among the girls.

The reasons for wanting to drop subjects may be classified roughly under the following heads:

I. Not useful in future business, vocation, or profession.
II. Not useful. (No other reason given.)
III. Don't like it.
IV. Too difficult.

Other classifications could be used but the answers of the pupils indicated more or less clearly that they had the above reasons in mind.

On the basis of the frequency with which each reason was given they take the following orders for the boys and for the girls:

Boys	Girls
Not useful in future business, vocation, or profession	Not useful (no specific reason)
Not useful (no specific reason)	Don't like it
Don't like it	Too difficult
Too difficult	Not useful in future business, vocation, or profession

The lack of usefulness is the prevailing reason among both boys and girls for wanting to drop a subject. However, the boys' idea of lack of usefulness is more specific than that of the girls. The majority of the boys who would drop subjects because they were not useful made a specific statement as to wherein the subject lacked usefulness; only two girls did this. Dislike and difficulty were much stronger elements among the girls' reasons for dropping subjects than they were among the boys' reasons.

The subjects which would be dropped by any considerable number of boys because of lack of usefulness in business, vocational, or professional life are Latin, art, manual training, mathematics, and history. Those that the boys would drop for no other assigned reasons than lack of usefulness are art, Latin, and history. Dislike enters most strongly among the reasons for dropping English, history, and art. Latin is the only subject in which difficulty is a strong element among the boys' reasons for dropping it.

Among the girls, the lack of usefulness (without a specific statement as to field in which the subject is useless) is given most frequently as a reason for dropping Latin, mathematics, English, and history. Dislike is a strong element among their reasons for dropping mathematics, household arts, history, and art. The difficulty of the subjects is given most frequently by the girls for dropping Latin, art, and German.

In the next issue of this journal the authors will present the results of an extensive study of the preferences of the pupils of three public secondary schools. This study will include more than sixteen hundred cases.

In the Teachers College Record of November, 1915, the authors report in detail the results of an extensive investigation into the relationship between the preferences of the pupils of these schools for the various subjects and the utility of those subjects, as judged by the pupils.

DISCUSSIONS AND COMMUNICATIONS.

VOCATIONAL EDUCATION—ITS DEPENDENCE UPON ELEMENTARY CULTURAL TRAINING

Frederick W. Roman,
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OUR country is the richest in the world. Never before have our workmen been able to produce as much good as is being created in the present capitalistic stage of economy. More food and clothing is produced each day per capita than has ever been the case in any previous epoch of history, yet there is great discontent among the workers. Wealth is being concentrated more and more into the hands of the few. The effect of this tendency is expressing itself daily in the threatening social revolution just ahead of us. Strikes of enormous proportion are the subjects of the headlines of great cosmopolitan dailies. Civil strife has been so great and so frequent in recent years that one may say that the state militia or federal troops are busy restoring order in one or more sections of the country all the time.

Such is the brief but true analysis of our industrial situation in this country. It is clear then that the paramount economic question is not ways and means of producing more goods and better goods, but rather a reorganization, or at least a readjustment, of our means of distributing the enormous quantities of wealth which are being produced right now.

The agencies for educating the children of this country are asked to help coming generations to solve the question of distribution rather than that of production. Despite this economic and social situation, we find numerous vocational school men who seem to think that mechanical efficiency is the chief and about the only element needed in the future vocational school curriculum.

Let it be distinctly understood at this point that we, in no wise, wish to disparage the importance of training in skilled workmanship in vocational schools. One of the goals of the vocational schools must always be high grade mechanical efficiency, but we must not overlook the fact that material deficiency is not the chief defect of our present industrial organization.

We have at the present time a host of commercial clubs, chambers of commerce, manufacturers' associations, and a small group of school men who are taking just this narrow view of vocational education, which all goes to prove what amateurs they really are when it comes to dealing with the industrial ills of our country.

We see this narrow conception of the vocational school problem expressing itself in systems of dual control—such as we find in the State of Wisconsin. Strenuous efforts have been made in the State of Illinois for the last several years to establish vocational education under an independent school board. The Wisconsin law and the Illinois proposed scheme place the control of the vocational schools in the hands of a so-called practical board, composed of employers and laboring men.

This whole dual control idea rests upon the notion that it is the chief business of vocational schools to train the pupils in mechanical efficiency. Some manufacturers feel that that is the only thing worth while. The boy is to be trained to be a high-class machine. It is argued that this will enable him to command the highest wages possible and, therefore, lead to his best comfort.

To this fundamental misconception of the real problem connected with vocational training, these same commercial clubs, manufacturers' associations, have called to their aid three arguments:

First, they have said that the teachers in the elementary schools and high schools are not in sympathy with vocational training. The public school has been held responsible for the large number of boys and girls who leave school after the age of twelve years, and for the small proportion of our high school graduates as compared with the number that enter. Pupils dropping out of the elementary school and the high school have been called frequently the waste-product of our public school system. This has been supposed to be due, in a large measure, to the incompetence of the teachers and to an elementary and high school curriculum that fails to meet the needs of the children.

A second argument for the separation of vocational schools from the elementary schools has been championed in this country because it was claimed that such separation was based upon the best experience found in Germany. It is safe to say that the dual control idea of Wisconsin and the agitation for a similar dual board in the State of Illinois are primarily due to the supposition that such a scheme represents what is being done in Germany. A careful analysis of the German school system shows that the dual control propaganda carried on here in the United States is not at all warranted by what Germany is doing. In some parts of Germany, there is a dual state control which has little or no relation to the dual control as provided for by the Wisconsin law.

Sometimes we hear a third argument presented. The vocational school must have the atmosphere of the shop, the store, the mill, the factory, and this is said to be impossible as long as these schools are under the domination of the present school government.

With the idea that the chief goal of the vocational school is to fit boys and girls for the highest material-producing efficiency, and supported by the above-mentioned arguments, the dual control advocates are anxious to establish an independent school system so that the large number of boys and girls, or the so-called waste-product of our public school system, may find their true function in society.

It is the purpose of this discussion to show that vocational education, in order to be successful, must include much more than the mere making of skilled tools out of our children. Our capitalists have already robbed our forests and our mines and the natural resources of our country generally, and now we are asked to accept a system of education which looks to the exploiting of our children. To train boys and girls to become mechanically efficient will not solve the problem arising out of the ever-increasing number of strikes and labor wars going on in the United States. The greatest problem before the American people is not how to train boys and girls to produce more goods and better goods in shorter time and at less expense, but the real problem is the question involving the distribution of the goods which we already produce.

Some of our manufacturers, business men, and school men seem to think that the public schools are helping the children to adjust their lives to meet the struggle for existence, and the realization of the best that life can give, by fitting the children to produce material goods. They seem to forget that this government is trying to be a democracy; hence, it becomes the task of our schools to equip our children to meet the responsibilities of citizenship, which is something more than knowing how to work in a factory. To train children to earn wages is one thing; to give them some adequate ideas of the amount of the wage to which they, as future workmen, are entitled, is quite another question, and, for the industrial peace of our Republic, much more the important of the two. A system of vocational schools cannot solve the latter question by giving their entire attention to materialistic training.

There are, then, two distinct bases, the material and cultural, on which the vocational school is dependent upon the elementary school. It would seem that the advocates of vocational education who favor divorcing the control of the vocational school from the regular elementary school have lost sight of both. The vocational school cannot succeed except that the work in the elementary school be done thoroughly, both from its mechanical and spiritual side.

An independent vocational school system could not even succeed in producing efficiently trained workers if the work in the elementary schools were not properly done. If the experience of the German schools teaches us anything at all, it shows that vocational schools can never be made anything worth while until the elementary schools are brought up to a high degree of efficiency.

The reports of the Prussian Continuation Schools show that for a long time much money and effort was wasted because the work done in the elementary schools was so inefficient. It was shown to be inefficient in the amount of subject matter, quality, and method of presentation. The pupils coming from the elementary schools presented such a variety of preparation that it was well nigh impossible to classify them with reference to any vocational school program that had even the smaller conception of vocational education as the goal; namely, training for mechanical efficiency alone. It was soon discovered that a part of the vocational school program had to be taken in reviewing the fundamental processes of the elementary school. It was necessary to teach the pupils to read, to write, and to give them thorough reviews in the simple mathematical exercises. The celebrated Kershensteiner of Munich shows over and over again that further advance in the progress of vocational education is dependent upon greater efficiency in the work done in the elementary schools.

Hence, we see that even from the standpoint of the mechanical efficiency of the vocational school there is the greatest connection between the elementary school and the vocational school. This independent school board that is to have charge of the vocational schools would not be able to give us vocational graduates prepared to do the work, because in so many cases the mechanical work in the elementary schools is so poorly done. This would naturally lead to difficulties between the two school boards. The one would blame the other. Conferences, compromises, would constantly be necessary, in order to work out the difficulties which would be sure to arise. Not until complete unity had been established between the elementary schools and the vocational schools, and the complete dependence of the latter upon the former had been recognized, could the vocational school be in position to do the best work from a mechanical point of view.

I have taken some time to analyze this point of view, because I have hoped to show that this second school board idea is not practical, even under the easiest possible responsibility which we may place upon the vocational school; namely, the training of boys and girls in trade and business subjects only. In other words, an independent vocational school is not a practical institution, even when its field of operations is limited to the province of producing mechanical efficiency. These independent vocational school boards would soon find that, in order to do the work which the community expected of them, they must have control of the children, not only from the age of fourteen to seventeen, but from the age of six to seventeen.

The vocational school has not fulfilled its complete function until it helps the boys and girls, as completely as may be, to adjust their lives to their environment. To prepare our boys and girls to earn wages, merely, will not enable them to meet the responsibilities of a democracy. The great need of this country, and the world generally, is a much more rapid development in a true understanding of questions relating to the welfare of the state. Our present materialistic civilization is threatened with destruction because the social forces which bind mankind have not kept pace with the materialistic advances of the world.

It is the purpose of nature to create organic matter out of inorganic matter, and this process takes place at an accelerated rate. However, the volume of matter never increases. The more complex our material life becomes, the more must the psychic agencies be developed in order to keep the equilibrium established. If any community or nation develops the material side of life faster than it does its mental side, then retrogression is sure to set in. Just this phenomenon is taking place in Europe now. The last generation has been spent in producing material equipment; whereas, the civilization of mankind has been neglected. For that reason, this war must go on until the amount of material possession in the world is reduced to correspond with the amount of brains that the nations possess. If the material development of any community or state is to remain a permanent achievement, it must be accompanied by a corresponding mental advance.

We cannot hope to hold the material blessings which we now enjoy in the United States unless our schools are able to more fully socialize our people. This quarrel between labor and capital cannot always go on. It will not be solved by vocational schools that have material production as their goal. The need of the present hour is a vocational school that is able to take due cognizance of the industrial strife that is being waged so bitterly between "those that have and those that have not."

The vocational school curriculum must give due prominence to problems connected with wages, citizenship, and democracy. It is easy to understand that no vocational school can help its pupils crystallize notions on these topics that will insure the safety of the Republic, unless the elementary school is thoroughly saturated with the cultural viewpoint throughout its entire course.

No such word

THE "NINE PRESCRIBED UNITS"

E. O. Sisson
Commissioner of Education, Idaho

THE Editor has been kind enough to invite me to make a statement "concerning the changing bases for high school curriculum prescription from the old Committee of Ten basis through the 1911 Committee of Articulation of High School and College to your *hopes* for the Report of the Commission on Reorganization of Secondary Education." I am happy to accept the invitation; and I shall deal frankly in hopes and convictions concerning the curriculum and the opportunity which lies before the Commission on Reorganization.

First, I believe heartily in *some studies* common to all, for the reason that all are human, and life is larger than all differentiations; all (so far as we are here concerned) are Americans, and national ideals deserve no mean place in the education of the adolescent youth; all, with negligible and regrettable exceptions, are to be parents; all need to share the great enjoyments of the race and the people to which they belong, and the capacity to share these in their truest form will languish unless it is cultivated.

Moreover, if the school does not educate these powers and capacities, the rough world will occupy the ground too often with the superficial, the specious, the provincial, or even the false and pernicious. As things are, boys and girls go out from school with wide areas of their minds absolutely unenlightened and unprotected from the fallacies and errors of which the every-day world is full.

These studies common to all form the bond of unity in the nation and its communities; they form the basis and equipment for thinking out the problems that affect all and that all should help to solve.

The old rigid curriculum of the secondary school used to begin with Latin, four years; Greek, two or three years; mathematics, two or three years. Although this was a comparatively short time ago, we have traveled far in the meantime; now the most widely accepted prescription is the nine "units" of the National Education Association—English, 3; foreign language, 2; mathematics, 2; history and social science, 1; and natural science, 1.

Latin and Greek were originally frankly instrumental and merely preliminary to "study," for the simple reason that they constituted the only gate to the study of any branch whatsoever. Later when science and literature deigned to clothe themselves in the vernacular tongues, various new values were found or asserted for the ancient languages. With those, however, we have nothing to do here. The new schedule of prescription is still dominantly instrumental: English, with the stress upon composition; foreign languages; and mathematics. The distinctly content element gets only two units out of the nine.

The natural sciences are the great intellectual achievement of our own race and our own age of the world. They reveal the constitution and laws of the material universe out of which man springs and by which all his life and action are conditioned. The social sciences, with history, are older than natural science, and yet today are springing into a new and momentous importance. They reveal the forms and movements of man's own life in its universal form of social communities. Together these two fields compass the preponderating part of all positive knowledge. Without some grasp of their salient facts and basic principles no man can hope to understand the world or his place in it. Yet these two great fields together get only two out of the nine prescribed units. And, unfortunately, great numbers of students never get beyond these two prescribed units, and so go out of school untrained in all except one small corner of these fields.

An interesting side light upon this subject is given by noting the background of the leaders of university work in the United States. First consider six former University presidents who occupy places of the highest distinction in public and private life: Woodrow Wilson, Charles William Eliot, David Starr Jordan, Andrew D. White, Henry S. Pritchett, David H. Houston; three of these men are by training natural scientists, and the other three social scientists. Next take the active presidents of thirteen first rank universities; social scientists preside over six: Harvard, Yale, Chicago, Michigan, Minnesota, Illinois; natural scientists over three: Pennsylvania, Wisconsin, Stanford. Former professors of philosophy preside over three: Columbia, Cornell, Princeton; and a former professor of classic literature and philology over one, California. All predominantly scientific or technical institutions are excluded from the list, and only universities of general scope considered. Yet nine out of the presiding officers come from the two fields of natural and social sciences. The more this fact is scrutinized the more significant it appears.

It is not necessary to belittle the importance and value of the other prescribed subjects; the plea may well be based upon the incomparable importance of these two fields for all thinking persons. Nor is the question whether some, or even all, students should or should not take three units of English. The vital questions are such as these: Is it not far more important for the great majority of secondary students to have at least two years of natural science than two years of foreign language? Is it not absolutely wrong to cut off any secondary student with one meager year for history and the social sciences?

No subject can outrank these two in importance—not even English or mathematics. They are the disciplines upon which more than all others the wits of the race have been sharpened; they are the keys to the solution of all our most important problems. They should have a place in the curriculum second to none. For my own part I should advise the great majority of high school students to give four years to one of these two fields and two or three to the other. The time is ripe for a more generous recognition in the prescribed list for these fields.

I would go so far as to say that no single year's work in any subject is more worthy to be prescribed for all secondary students than a course in economics or sociology; or better still a composite course comprising the essentials of economics, sociology, and government. It must be quite clear that history is no adequate substitute for courses of this nature, although of course furnishing invaluable illustrative material for them.

Possibly the six and six plan may help to open the way out. Could not some of the prescribed English and mathematics be covered in the seventh and eighth grades under the new system? The two-year foreign language requirement is a mere transition which cannot long hold its place against the pressure that now besets it on almost all sides. Let us have a prescription of genuine fundamentals—natural science, social sciences, mathematics, English; if any are to be given the preference in quantity, let it be to the great content studies, the natural and social sciences.

So much thus briefly of studies in the stricter sense: what of physical education, so assiduously practised by our favorite exemplars, the Greeks, and so ignored and distorted by us? What of music, the other half of Greek schooling? It is a sign of hope that the Commission on the Reorganization of Secondary Education has subcommittees on both of these subjects—the first of the great committees to give any such recognition. Will the Commission have insight and courage to declare their importance in no uncertain terms? What again of the capacity to appreciate beauty and to discriminate between the true and false in art?

Finally, what of that discipline in working hard, earning, spending, and saving, which the adolescent youth *out of school* gets in abundance? There is some ground for suspicion that the four years spent in high school is often a period of decadence or at least arrest in certain plain and indispensable virtues which will always be indispensable to the great majority of people.

To reorganize with good hope of advance one must be ever conscious of the aim. I will try my hand at the elusive task of sketching the main lines of the aim of secondary education:

First (although not necessary foremost), a sound and serviceable body.

Second, a mind trained and furnished to think safely concerning problems of the natural world and the world of man; that is the scientific and social attitude.

Third, a soul opened at least in some directions to the beautiful, as opposed to the gaudy, the meretricious, the sensational, and, above all, the false.

Fourth, a righteous will, including reverence for one's own best self, and loyalty to all others to whom one is bound by any sort of relationship or influence—near or far.

Fifth, though not in order of time, a vocation by which one may give economic return for what he receives from the social store.

This in effect has always been the aim; the task of reorganization is the retranslation of these ideals into terms of the curriculum: the question is, what studies and exercises are fitted to stimulate and train these qualities and endowments.

BOOK REVIEWS

Patrick J. McCormick. *History of Education.* Washington, D. C.: The Catholic Education Press, 1915. Pp. 401.

Mabel Irene Emerson. *The Evolution of the Educational Ideal.* Boston: Houghton Mifflin Co., 1914. Pp. 185.

George L. Jackson. *A Syllabus of Course 1 in Education. A Syllabus of Course 2 in Education.* Ann Arbor, Mich.: George Wahr.

The *History of Education* by Professor Patrick McCormick is noteworthy as perhaps the first general treatment of the subject from a Catholic viewpoint to appear in English. The purpose of the book is stated in the preface. It aims "to meet the needs of the Catholic teacher or student, to give him along with a knowledge of educational history that sympathy with Christian institutions and men, especially in the Middle Ages, which a common faith and spiritual heritage demand, and which contemporary histories of education in English do not tend to foster."

The pursuance of this aim accounts for some of the more noticeable merits and defects of the book. On the one hand it is perhaps the only work of its class in English to make adequate reference to the educational theories of Thomas Aquinas, the educational activities of Gerbert and Gerson, and the educational writings of Aegidius Colonna, Hugo of St. Victor, and Vincent of Beauvais. On the other hand Professor McCormick will seem to many to have devoted too much space to individuals whose influence in the tradition of educational theory and practice is relatively unimportant. It is difficult to see, for instance, how what is said of St. John Chrysostom or St. Ambrose will contribute to the reader's knowledge of the history of education. The influence of the writer's aim and point of view upon his sense of values is reflected further in the fact that while he devotes five pages to Vincent of Beauvais he assigns scarcely as many lines to Abelard.

Among the various commendable features of the book are the admirable clearness and conciseness with which certain topics are handled, for instance, the origin of the universities, the educational views and efforts of Pestalozzi and Froebel. Reference should be made here to the analyses of important educational works characteristic of the Renaissance such as those of Vergerius and Sir Thomas Elyot. Due attention is paid also to such reformers as Felbiger and Rosmini. Professor McCormick's treatment of Protestant educational pioneers and reformers is, on the whole, eminently fair and unprejudiced. It is unfortunate, however, that the statement* with which he introduces a much-abused passage in Luther (a passage often wrongly interpreted as a plea for greater attention to vocational education) makes the latter seem a plea for the restriction of the privileges of education rather than what it really is, namely, an explanation of how it is possible to extend these privileges among the less well-to-do classes. It would scarcely be consistent in a Catholic writer to devote much space to the history of American state public school systems and Mr. McCormick is not inconsistent. On the other hand the comparatively full account of the development of the Catholic system of schools in the United States constitutes another unique and valuable feature of this most welcome addition to the steadily growing list of works in the general history of education.

There has long been a demand for a clear, brief running account of the essential features of the historical development of educational theory and practice. This demand has been fairly well met by Dr. Emerson's little book entitled *The Evolution of the Educational Ideal.* The book is designed for easy, fluent reading rather than for painstaking study. Hence the framework upon which the book is constructed does not so persistently obtrude itself upon the attention of the reader as does that of the ordinary textbook.

In the chapters on The Education of the Greeks, Roman Education, Christianity and Scholasticism, The Renaissance, New Theories of Education, Back to Nature, and Pestalozzi the author traces in outline the main currents of the history of educational theory and practice in Europe from the earliest times to the present. The following four chapters, entitled The Influence of Woman on Education, Education and the State, The American Common School, and The Life-Career Ideal are unusually suggestive, based as they are largely upon an analysis of subject matter different from that to be found in most books on the general history of education.

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* P. 216, Par. 1.

In a brief general sketch, such as that which Dr. Emerson's book aims to give, the task of selection and emphasis is especially difficult. It is difficult also to make assertions of a general character which are both illuminating and accurate. Hence students of the subject are likely to find here and there statements which they cannot accept without modification. The statement, for instance, that "The sole purpose of Spartan education was to develop strong bodies,"* fails to recognize the efforts of the Spartans to cultivate courage, fortitude, resourcefulness, quickness of wit, incisiveness of speech, and soundness of judgment. One familiar with the work of Varro and Martianus Capella might take exception also to the statement that "The graded system called the Seven Liberal Arts came into existence through the monasteries."† Other little inaccuracies are the references to the *Emperor* Frederick William III,‡ and to Germany as possessing a *national* system of education.** No one of our texts on the history of education is free, however, from minor errors of this sort. They do not mar appreciably the total impression one receives from this most pleasing and helpful epitome of the history of education.

Dr. Jackson's syllabi of courses in the history of education differ from most others in that they do not present a formal and detailed analysis of subject matter. Only the larger divisions of the subject are named. The headings are accompanied by lists of references and occasionally by brief definitions or digests. The work consists for the most part of lists of topics for investigation and discussion. These will prove distinctly valuable both to teachers and students of the subject.

L. F. Anderson

Ohio State University

Will Earhart. *Music in the Public Schools.* Washington: United States Bureau of Education, Bulletin, 1914, No. 33.

This is the first bulletin of its kind to be issued by the Bureau of Education and is of particular value to educators because it furnishes much necessary information concerning music in the public schools.

The bulletin contains questionnaires and tabulated answers under the following groupings:

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* P. 25.

† P. 45.

‡ P. 116.

** P. 143.

1. Music in all grades below the high school.
2. Music in high schools and in relation to the community.
3. Music in state school systems.
4. Courses for training teachers of music.

Question 1 has to do with the various phases of music study necessary to grade work—in all 27 questions are asked. It requires 11 tables to show the results. Out of 681 towns and cities (school systems) ranging in population from 4000 to 50,000 or more, reporting, 91 per cent. *require music.* 280 of the 681 schools have "*graded systems.*" 75 minutes per week for the first four grades is given as the favored number—divided into 5 15-minute lessons. 60 and 100 minutes are given as leading for the upper grades which probably means longer and fewer lessons. "Rote singing" is well standardized. "Staff notation and sight singing" are begun. The first grade leads. "Individual singing" reaches its maximum in the third grade with a marked decline in the seventh and eighth grades. "Vocal drill" receives attention in the majority of schools. There is a degree of persistence shown through all the grades in ear-training. "Written work" is considered in most schools, with a marked increase in the third grade. "Sight reading, using syllables" is in very general use throughout the grades. As to "words at sight," there is a lack of uniformity in all grades. "Two-" and "Three-part singing" show marked uniformity. Out of 604 schools reporting 519 give some credit for music.

The problems of classification and management of boys' voices during the time of change of voice, the number of instruments owned by school boards, the number of visits of supervisors to each room, and examinations for grade teachers and supervisors of music are treated at length in this survey. Interesting results in tables are clearly brought out.

In Questions 5 and 6, "Features of practice by grades," we wonder if both terms (ear training and dictation) should be used in questionnaire on music in the grades; and whether (Question 5) "voice building" should be made to read "voice conservation"? No report is given on titles and authors of textbooks. Is this feature not desirable, inasmuch as many of the answers received must have been based upon the arrangement of material for teaching purposes in use at the time the report was made?

Methods of teaching are divided into two classes, the "Song study" method, and the "Scale" method, these methods apply to the very beginnings of music teaching and must of necessity be limited to the first two or possibly three years of instruction.

Under the head of "Music in High Schools and in Relation to the Community," the questionnaire contains a list of 23 questions, covering the subjects of credits, systematic courses of study, including chorus practice, orchestra, musical history, appreciation, harmony, sight singing and elementary theory, assembly singing, applied music under outside teachers, community musical organizations in relation to high school organizations, and school ownership of orchestral instruments.

It required 13 tables to give the results of the survey of music in the high schools. It is interesting to note, out of the 631 schools reporting, that 70 per cent. have some music other than assembly singing. The questionnaire covers the subject of combined courses also, as history and appreciation and chorus practice with incidental instruction. It is impossible to give even the summaries of the tables because of the limited space, but a few of the problems require special thought and consideration. A review of all of the tables tends to show that a majority of the schools do not allow time enough for two (or more) essential courses in music-study. A recommendation of suitable combined courses would be an excellent feature and helpful to the majority of educators who are interested in formulating courses of study.

In classifying high schools by materials used, into three groups—"strong," "good," and "weak" (page 30)—under "strong" mention is made of some of the lesser and easier complete operas "being used in larger schools for concert purposes." At the risk of being considered eccentric we raise the question of values. What is the educative value to the child, when the preparation "often constitutes the greater part of the season's work?" If both girls and boys of high school age should sing within a limited range for "physiological reasons," and if musical form can be taught without repeated vocal effort, and if the text is rarely worthy of prolonged attention—is it wise to emphasize an entire opera for consideration in the high school. Will the emphasis placed upon it under "strong" have a tendency to encourage inexperienced teachers to include the rendition of an opera to the exclusion of more suitable chorus work? Also are there any oratorios (even arranged editions) that have a safe range in all parts for children's voices?

With reference to the articulation of high school and community music we learn that the larger cities reporting good effect of school music upon the musical life of the community are Rochester, Boston, Cincinnati, Indianapolis, New Orleans, New York City, Seattle, Pittsburgh, and others. St. Louis reports concerts by the choruses of high school students in connection with the St. Louis Symphony Orchestra.

Forty-seven reported on music in state school systems. The number of states requiring music in the grades is 10. The report further shows the number of states specifying the grade of work required, the number that have uniformity in textbooks, the number that do and do not require music in the high schools, the number requiring examinations, the character of examinations required, also the number of states where music is taught in reformatory institutions.

Reports are given on questionnaires that were sent to Porto Rico, the Philippines, and Hawaii. Porto Rico reports no musical activities to speak of; in the Philippine Islands music is *required* in both grades and high schools; while in Hawaii music is required in the grades, but is not compulsory in the high schools.

Page 70 of the bulletin contains a report made by the Nebraska State Music Committee to the Department of Education in the University of Nebraska which describes the courses of music study as presented for high schools having competent instructors in music. 164 institutions divided among 42 states are included in the report consisting of state normal schools, county normal schools, city training schools, and private normal schools. A summary of tables XXX–XXXVII shows that 147 of the institutions above named provide instruction in music either for grade teachers, supervisors, or both in the regular summer sessions or in both.

Bulletin 33, in the estimation of the reviewer, contributes necessary and valuable information upon the subject of music education in the public schools. It is written by a broad-minded musician, who has manifested a disposition to be fair and to make no undue allowance for questions that were not answered clearly. The explanations and comments from first to last show a spirit of helpfulness and a clear understanding of the pedagogy of music. Mr. Earhart has contributed valuable data to the history of music-education in America.

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Report of the Commissioner of Industrial and Vocational Education. California State Board of Education, Sacramento: State Printing Office, 1914. Pp. 47.

It would be unfair to criticize Commissioner Snyder because he has presented so few facts in his first report—a report covering the first six months' work in a new position. But when he draws sweeping conclusions and makes elaborate recommendations, apparently justifying them by the facts he has presented, he opens himself to attack. The facts which he gives and uses are age and grade enrollment and elimination statistics. On the basis of these data he attacks the public schools of his state and enumerates their shortcomings in detail.

As a cure-all he offers vocational education in its various brands, "introduced far enough down in the grades to attract the attention of the thousands of children who are leaving the elementary school with a sixth or seventh grade education." Vocational education is too good a thing to be saddled with such a well-nigh impossible task. It cannot counteract some of the causes of elimination much better than the traditional school work, for some of these causes are social and inherent in modern family life. The influences of changing schools, lack of parental control, dislike of restraint, lack of appreciation by parents as well as children of the value of any sort of schooling, or incorrigibility cannot be overcome merely by making the work more "interesting" as he implies. Unless attendance is compulsory there will be elimination from vocational schools. Vocational education can be justified without advocating it as an unfailing panacea for elimination. Hence, its supporters should guard it from such a basis of attack.

In his recommendations, Commissioner Snyder advocates vocational schools, departments, and classes; day and evening; part-time, continuation, and full-time, all as a part of the present school system. In addition he recommends the establishment of "intermediate schools," finishing vocational schools extending through grades 7, 8, and 9, or 7, 8, 9, and 10. To the writer it seems that this recommendation is fraught with danger unless this school is coördinated with the regular school system in such a way as to readily permit pupils to transfer to and from it. It may otherwise lead to social stratification.

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EDITORIAL

Issues and Controversies Regarding Vocational Education

IN the September issue there appeared what will become known as the "Book-Dewey" controversy. We hope the positions may be amplified and the arguments advanced in later numbers of this journal.

A review of the recent literature of vocational education discloses fundamental issues. These reveal without equivocation equally distinguishable fundamental philosophies of education.

Presidents Eliot of Harvard and Angell of Michigan once sharply differed on the question of offering in the early years of public education one type of training for one group of pupils and another for another. Eliot urged the rights and privileges of education for each individual in a democracy, since the state consists of and exists for the individuals; Angell favored rather the extended identity of training required by the nation of its citizens, since, on this view, democracy depends on making them all alike as far as education is the state instrument. Eliot's position, even such a short while ago, was shocking and novel as well as daring. We had no philosophy of elementary, of common school education, except, perhaps, a borrowed Herbartianism with much common obscurity as to the fantastic philosophy underlying it. Since then we have traveled far, thanks among other things to the vocational education propaganda. Around this question statements and claims are bolstered by up both principles and cited facts. We have now what might be called the Davenport-Cooley issue, which originated in Illinois and at once assumed national significance. This controversy sharply puts the question of administrative principles involved in securing state-wide culture and also occupational proficiency. A considerable pamphlet literature centers now around this issue, and the Illinois state legislature has devoted much time to consideration of rival bills representing the two opposing conceptions of state administration of different kinds of education. The administrative and political interests have too often obscured the educational one. The Cooley position appears to be too much a slavish imitation of practices incorrectly assumed to be operative in Germany; Davenport's solution (pamphlets published by the University of Illinois and *Education for Efficiency*) is good in spots but too mechanical from the purely educational, or curriculum-design point of view. Thanks to Snedden we have several controversies in which his name must appear, two of which are the Snedden-Bagley tilt and the Dewey-Snedden issue.

The former (School and Home Education, March and May, 1914), though interesting and "clashing," is after all academic and disputacious. The appeals are to different entrenched camps and the deadlock is a verbal one. Snedden appears to be talking here about the need of vocational education as an urgent immediate requirement of large social groups of the young over 16 years of age, and to go on the assumption that something unusual must immediately be done about it—and done in a direct and often a short-cut way. He attempts to establish new bases for curriculum building in which vocational needs loom large. Vocational education must for a while be for immediate alleviation of almost intolerable vocational unpreparedness. Bagley appears to shift the field of discourse to that of the structure and permanent character of a universal system of education. He argues forcefully for an education all along the line which shall be the logically ideal admixture of cultural or general and of vocational or special elements. Snedden is talking about curriculums (not merely particular school subjects and courses) adapted in order to alleviate for both the individual and the state the existing industrial and social conditions. Bagley is talking about the desirability and the inevitability of all particular school subjects (not curriculums) having both cultural and vocational effects—the same mixture of both being adequate for all groups of young children up to 14 or 16 years of age. Consequently he must, to be logical of course, attack any differentiated course of training whose dominant emphasis is vocational.

The Dewey-Snedden controversy (The New Republic, May 15, 1915) is very illuminating in some respects. Here we find, as we find in the Book-Dewey issue and in the Bagley-Snedden arguments, two disputants talking publicly to (or at) each other, but talking in different fields of discourse. Snedden, looking at conditions as he thinks they are, at (as he thinks) bona fide and increasingly numerous movements for providing vocational education, at the jobless and hopeless academic output of our schools with their anti-vocational training, and at the teachers with their restricted and scholastic views of education, wishes, till we can bring about a different social and industrial situation, "to *do* something about it" at once. He, therefore, naturally remonstrates with Dewey for virtually allowing himself to be classed with the reactionary opponents of all those who would extend and enrich the academic instructional offerings of educational systems by incorporating vocational elements. He thinks Dewey both misapprehends and discredits the on-the-whole wholesome vocational education propaganda. Here again Dewey's reply shows that their universes of discourse are entirely different. Identical words and phrases carry wholly different meanings. Snedden thinks of the immediate needs of those young boys and girls now suffering from no training and economic incapacity, and he calls "vocational education" the training arranged as best we can arrange it to bear directly upon their special needs—special vocational "curriculums," temporizing, of course, from the point of view of a nation's life, but fundamental with reference to the principle of always adjusting to an undeniable and unescapable social situation which exists throughout the lifetime of the individuals concerned. Dewey, on the other hand, thinks of "vocational education" as the ideal universal education. "I would go farther than he (Snedden) is apparently willing to go in holding that education should be vocational. . ." His philosophy has no place, however, for our temporizing adjustments. He is no educational "time-server"! He contemplates no vocational education to be acquired "before 18 or 20," none which sacrifices broad scientific and social "industrial intelligence" for some mechanical and managerial skill, none which is not a training beyond and opposed to any "adjustment" to an existing industrial regime, none indeed, that will not tend to alter and "ultimately transform" our existing industrial system.

Snedden tries to devise a definite practical sane educational program for the immediate future, yet one that in no way will in principle violate the fundamental requirements of public education in a democracy. Dewey is talking like a philosopher and fortunately for us also thinking like one. His controlling vision is the ultimate realization of his well-wrought-out politico-social philosophy. Both men are on the right tracks. Dewey portrays both in the following paragraph: "I can readily understand how a practical administrator becomes impatient with the slowness of social processes and becomes eager for a short cut to desired results. He has a claim upon the sympathy of those who do not have to face the immediate problems. But as long as there are as many debatable questions as Dr. Snedden admits there are, it is surely well that those outside the immediate administrative field insist that particular moves having short-run issues in view be checked up by consideration of issues more fundamental although remoter."

It would be interesting to know what Dewey and Snedden would say about the same issue. We believe that they are both essentially right in their particular contentions. It is unfortunate that issues should become so mixed that such constructive contributors to this vital question should ever seem to be clashing at a time when the real clash should be between all who wish a reconstructed school program and clearly designed school curriculums and those whom Snedden characterizes "reactionaries and beneficiaries of vested educational interests and traditions."

C. H. J.

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EDUCATIONAL
ADMINISTRATION AND SUPERVISION

Democratizing Secondary Education by the Six-Three-Three Plan

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THE HIGH SCHOOL AS AN ELIMINATING AGENCY

IN the ripeness of time the democratization of the secondary school is as inevitable as has been the universal extension of elementary education. Fundamentally, American education is essentially democratic in its purpose. Before becoming a people's school in the fullest measure, the secondary school will have to overcome traditions and prejudices far more deeply seated than any which have impeded the progress of the elementary school. These traditions apply almost equally in controlling its purposes, its content, and its methods. It had its origin in the needs of a special class; it derived its content from the purposes serving the needs of that special class; and it applied the methods which were tolerable or even agreeable to the types of mind making up that special class. Its philosophy, always rather implied than expressed, has been exclusive and aristocratic. For generation after generation it has stood as an agency for selecting and preparing students for institutions leading to professional life or to a life of leisure. Slowly, and always grudgingly, it has broadened its content and modified its methods with the growth of knowledge and the advance of psychology, yet its conservatism keeps it from a decade to a generation behind the frontier. Although broadening its offerings somewhat to include consideration of some phases of commercial and industrial life, it has stubbornly maintained its academic purpose, treating students as abstract intellects rather than as social personalities. The maintenance of this purpose in its influence upon content and method is evidenced by its insistence upon the "purity" of its mathematics, its science, and its art, and the "scholastic" quality of its courses in history, language, and literature.

In selecting and forwarding to higher institutions students capable of leadership in the professions, the secondary school has contributed profoundly to American life and has justified our faith in maintaining it. (But when it ruthlessly casts into outer darkness great multitudes who, by virtue of either capacity or circumstance, are unfit for the professions, its democracy must be challenged and its readjustment insisted upon.) The secondary school can not be rated as democratic so long as it makes no appeal to more than one in four who become eligible to enter secondary work. It may not be rated as genuinely democratic until it offers work adapted to the needs of every boy and girl of normal development who finishes the work of the elementary school. Whether the work points to one vocation or another or to no vocation at all, that which follows the elementary period is secondary under any reasonably democratic usage of that term.

TRIAL AND ERROR EXPERIMENTATION IN SECONDARY EDUCATION

The American people are slowly but certainly formulating a demand for some kind of secondary education for all children who have an elementary school foundation. In their characteristic way, they have been "feeling" for a people's school for a decade or more. A great variety of "vocational," "prevocational," "industrial," "continuation," "trade," "shop," "cooperative," "intermediate," and "junior high schools" are the experimental attempts to supplement the work of the traditional secondary school. Why should these differentiated types of secondary education grow up largely independent of the "regular" secondary school?

If those filling these differentiated schools were incapable of secondary education, the high school's refusal to provide for them would be well taken. But their interests and capacities are not wanting—they are but different in kind from those finding satisfaction in the academic courses. In purposive thinking, constructive imagination, and the translation of ideas into action, many of these non-academic students succeed as well in their respective fields as do those working toward the professions. They are not docile enough to tolerate the "discipline" of the "culture" subjects as taught, but they are by no means thereby disqualified for intensive and effective thinking and various forms of social and aesthetic appreciation.

That the secondary school should remain so isolated from practical life and so unresponsive to the educational needs of the great majority of adolescent boys and girls is, in no small measure, due to the fateful inbreeding it so constantly practises. Its faculties are controlled by products of academic schools, trained in academic colleges, returning as academic teachers, intolerant of anything not in their subjects or fields, and almost as innocent of any live knowledge of the present-day world as cloistered monks. Schools adapted to the needs of the non-academic types of adolescent students have, therefore, almost of necessity developed outside the walls of the "regular" high school.

But in the decade of almost random experimentation under the auspices of both private and public support, many "regular" schoolmen have really awakened to the problem, and much intelligent thought has been given to its solution. Not all have remained deaf to the appeals made to them. Out of the ten years of experimentation and investigation there emerges the incipient plan of a rationalized, democratic solution by schoolmen which is one of the most important steps in secondary education since the private academy gave way to the public high school. This solution, still in its formative stage, is incorporated in the idea of the junior secondary school and the modifications of secondary education which the development of this idea implies.

DEMOCRACY OF THE JUNIOR SECONDARY SCHOOL

Reasons, both psychological and social, are impressing the need for a more rational definition of both elementary and secondary education. For the greater number of our children, the changes in purpose, content, and method of work seem to belong more fundamentally to the close of the sixth-grade period than to that of the eighth grade. The seventh and eighth grades are maximal for school mortality. The close of the sixth year of school, approximately the twelfth of the child's life, marks the beginning of adolescence. Individual differences become more marked than in earlier years. Vocational ambitions are awakened. Rather decided preferences and dislikes, very often based upon tested capacities, appear with compelling force. A relatively small number of the whole school population have by this time shown themselves strongly capable of academic work. From practically every consideration, the time has come when the unified work of the elementary curriculum can no longer be maintained with equal value to all children. That three-fourths of all "working paper" children in cities drop out of school, not because of "economic pressure," but because of the attitude of the child and the parents, is an indication of the inappropriateness of much of the usual work of the seventh and eighth grades. It is not maintained that all of the work is inappropriate, but it is certainly evident that content and method do form a very prominent factor in eliminating children from school.

From the standpoint of social needs—from the number and distribution of workers in the vocations—there is a definite basis for partial differentiation in the treatment of groups of children. By the census of 1910, the distribution of all of those engaged in gainful occupations was as follows:

Public service	1.2%
Mining	2.5%
Professional service	4.4%
Clerical	4.6%
Transportation	6.9%
Trade	9.5%
Domestic and personal service	9.9%
Manufacturing and mechanical	27.9%
Agricultural occupations	33.2%

In all of these fields but two, those of public service and professional service, a great majority of the workers usually begin, and will continue to begin, wage earning by the age of fourteen, sixteen, or eighteen years. Their preparation for both wage earning and the other activities of citizenship is seldom more than from two to four years beyond the sixth grade, and at best rarely more than six years.

The intrinsic nature and the vocational destiny of most of our population therefore call for differentiation in treatment at from two to six years before they leave school for the vocations. Their intrinsic nature requires this differentiation in that not less than three-fourths of them are "concrete idea," or "hand," or "motor" minded rather than "abstract idea" minded. Their vocational destiny requires it in that more than three-fourths of them are distributed among vocations in which the usual upper-grade and high-school content gives very little that is of any appreciable worth in terms of practical efficiency.

In practice, the "eight and four" plan has done almost nothing to meet really seriously either the facts of individual differences or of vocational distribution. Not only is the work of the upper grades not differentiated, but even in those high schools with much elective work, the first year or the first and second years are often uniform for all with elective opportunities *in the last two or three years only*. From both the psychological and the social points of view, *it is in early adolescence that differentiation is most fundamentally essential*, and in the later years that prescription with reference to definite ends is most educationally sound.

There is little difficulty in a well organized elementary school with content and method derived from the realities and ideals of present-day life in making all work of about equal value for all children without reference to definite fields of prospective occupation. Beyond the sixth grade this is not true. The time for partial differentiation has come.

DIFFERENTIATION IS ONLY PARTIAL IN THE JUNIOR SECONDARY SCHOOL

The differentiation needed from both the psychological and social standpoints does not by any means require group isolation. Rather more than half of the interests and the means of appropriate growth are still common to all children in the seventh, eighth, and ninth school years. It is in those subjects and fields only in which marked differences are evident that differentiation is needed. Individual capacities, inclinations, purposes, and considerations of time will usually determine lines of selection. Where doubt exists, a conference of parents and teachers will help to point the way. When organized about problems and topics of sufficiently vital interest and value, the major part of the English, history, geography, economic mathematics, and elementary science will appeal equally to all groups and be used equally in their activities. Within the field of special interest, each group will find topics in each of these subjects which may be treated in direct relationship to the problems out of which they arise. The relationships in such cases are so close that these topics may be appropriately considered as a part of the differentiated work.

Bases of Differentiation

The aptitudes of pupils and the vocational purposes toward which they incline pupils will lead to a fairly well defined division into five groups where large numbers of pupils are considered. These may be called, respectively, the academic, the industrial, the commercial, the agricultural, and the household arts groups. In small schools, one or more of these groups may not be large enough to justify representation by differentiated courses. In such cases compromises will not be difficult.

The academic group ordinarily will represent those who have aptitude and inclination justifying the hope of higher education and who are so circumstanced as to have reasonable prospect of such opportunity. They include those who will probably enter the professions, requiring college training as a prerequisite, and those who will enter business occupations, beginning their productive work not earlier than twenty to twenty-five years of age.

The industrial group is made up of those who are most interested in materials, tools, and machines, and who will probably enter wage earning occupations by the age of fifteen, sixteen, or eighteen. In this period, this group may include some boys who will have ambition and opportunity to prepare for engineering professions, but these will soon be absorbed in the academic group for most of their work. The type of thinking required of the engineer is distinctly of the abstract form, and he has little to do with tools and materials as has the woodworker, metalworker, or printer.

The commercial group includes those who are primarily interested in secretarial work, accounting, or salesmanship, and who will probably begin wage earning with nothing beyond a secondary education. In many cases this secondary education will be much abbreviated.

The agricultural group is made up of those interested in gardening, forestry, or farming in some form, and includes both those who will take advanced agricultural courses and those who will begin farm work in their later teens.

The household arts group consists of girls who are more interested in textiles and clothing, foods and cookery, or household decoration and management, than in grammar, mathematics, or foreign languages.

The differentiations will call for elective courses of five general groups somewhat as follows:

Academic—foreign languages, algebra, geometry, technical English.

Industrial—industrial arts, industrial drawing and design, industrial mathematics, industrial science.

Commercial—bookkeeping, accounting, salesmanship, office practice, typewriting, stenography, commercial forms.

Agricultural—elementary agriculture, farm mechanics, farm mathematics and accounts.

Household Arts—textiles and clothing, foods and cookery, interior design and decoration, household management and accounts.

No attempt is here made to distribute the work in any of these fields through the three years of the junior secondary school. The purpose is to indicate that for each group there is a definite content appealing to the varied interests and capacities of pupils and pointing toward the large fields of vocational differentiation.

By rating each year's work at thirty units, a distribution of eighteen to work in common and twelve in the differentiated field gives a total of fifty-four in common and thirty-six in the group courses. The fifty-four units covering subject matter of common value and about equal interest if properly humanized may be distributed as follows:

12 units—English
8 units—History
8 units—Geography
8 units—Elementary Science
5 units—Everyday Mathematics and Economics
6 units—Civics, Problems in Institutional and Vocational life
4 units—Physical Education
3 units—Music

The thirty-six remaining units may be made up by selecting entirely from the offerings in any one of the five groups suggested in the foregoing, or by some selection from two or more groups. It is by no means suggested that these groupings be made watertight compartments. The student in the commercial group might select a foreign language or algebra, or a course in household arts or industrial drawing and design; the academic student might elect individual units in industrial or household arts.

Flexibility under the guidance of definite purposes is the virtue and the aim of this plan.

DIFFERENTIATION DOES NOT HANDICAP EDUCATIONAL PROGRESS

At the conclusion of the third year, the student from one group should be able, if he wishes to continue, to transfer to courses open to any other group without serious handicap. The work for entrance to any specialized course of senior secondary rank provided by any of these groups would be at least not inferior to that given under the present usual form of organization. With the adequate development of this reconstruction, decided improvement over present conditions should be made. For college entrance, the University of Michigan has recently announced that seven of the fifteen units for admission to that Institution may be earned in the junior secondary school. But even granting but three entrance credits on the junior high-school work, the student would still be able to make the remaining credits as quickly as under the four-year high-school plan. For the academic group, who might reasonably expect the full seven entrance credits on the junior work, the period for college preparation should be materially shortened. The seventh and eighth years of school life would thus be made to count positively, even for college preparatory students. That their present organization and content do not contribute very much of measurable worth to any one now is an open question. Children do add two years in physical maturity and life experience coïncident with these grades, but the school is not responsible for that. For those children not going to college, the values of the reorganization are of very far reaching significance.

RECONSTRUCTION OF CONSTANTS IN THE JUNIOR SECONDARY SCHOOL

Under the stimulus of the differentiated courses with their demands for content from general subjects of substantial and appreciable worth, these general subjects could scarcely fail to become modernized and humanized. We should expect to see geography taught largely in relationship to present-day interests in commerce, industry, the sources of industrial raw materials, markets, travel, and in events of world-wide interest. We should expect to see history rewritten in terms of permanent and continuous human interests and problems, selecting its materials from those events that have contributed most to human progress, and which most of all help to develop attitudes of mind toward the significance of human conduct. We should expect mathematics to become quite largely a study of the means of solving the vital economic problems of every-day life. We should hope to find elementary science study dwelling primarily upon those problems and principles which have been most fundamental in man's conquest of nature whereby he provides himself with all of his material needs. In short, it seems reasonable to expect that a much more pragmatic selection of materials and emphasis will follow in all of the general subjects because of the more significant meaning of school life to children and teachers through the removal of the isolation of the school from real life contacts.

Already this reorganization of the general school subjects is well under way. Studies in the economy of time in school work, and in the evaluation of all subject matter in terms of present-day usage, point the tendency which this partial differentiation in the junior secondary school will forward.

THE SENIOR SECONDARY SCHOOL

By the close of the junior secondary school period, at about fifteen years of age, children will fall into three general classes, namely: those who anticipate college courses and vocational preparation extending through six or eight more years; those who expect to go to work in two or three years in non-professional vocations requiring a considerable degree of skill; and those who will go to work immediately, largely in low grade skilled or unskilled vocations. A very small percentage of the last group may secure employment in skilled vocations, but it will be in the most elementary phases of the work.

For the college preparatory group, there is no difficulty in organizing courses to meet whatever needs the colleges impose, whether the colleges are liberal arts, scientific, or technical. This may be done and still leave time for some work that is educational in character.

For those who can remain but two or three years for vocational preparation of an intensive character, courses may be readily established in commercial work, agriculture, household and related institutional arts, and the more fundamental industrial arts. Using twenty-four hours of the thirty-six in each week during a school year of thirty-six weeks as a minimum for practical and closely related subjects, the student would receive, in three years, a total of 324 eight-hour days' work, a very respectable apprenticeship when under good instruction. This, supplemented by twelve hours a week in general subjects of a broadly liberalizing character—literature, history, civics, economics, sociology, and science—would bring the young man or woman to the age of about eighteen with a broadened view and a specific training making for efficient service in the vocation chosen. Whether the practical work were done in school, or in a commercial establishment—shop, office, store, farm, household, or institutional home—on the part time basis, the principles of organization and selection of work might be the same.

For those who go immediately to work, the junior secondary school should have been helpful in making vocational selections, in giving some foundation in vocational preparation which would make adjustment relatively easy, and in creating a feeling of interest and of worth in further school training which will lead many voluntarily to continue in such part time school opportunities as may be reasonably provided. Compulsory attendance upon school for those beyond junior high-school age may be socially justifiable, but only when the work required of them is adjusted to their personal needs and to their development toward more efficient citizenship.

THE DEMOCRACY OF THE JUNIOR-SENIOR SECONDARY SCHOOL

Omitting from consideration here those who are mentally deficient, the unified junior-senior secondary school would thus adjust itself to the equal service of all individuals—equal service in the sense of offering opportunities which would give each a chance to select work suited to his capacity, and forwarding him to increased efficiency in the occupation which finds him, whatever that occupation may be.

The whole problem is not so much one of new courses, or new administrative machinery, as it is of reorganization and redirection of much of the secondary school work in terms of twentieth century social needs and values. All that is of fundamental worth and of secondary rank in any of the numerous specialized schools for teaching the vocational aspects of life may be incorporated in the unified secondary school of the junior-senior type.

As a measure of helpful organization, the six-three-three plan offers much of promise for greater flexibility, more varied adjustment, and a more democratic realization of the selective function of the secondary school.

Grading and Promotion of High School Pupils

J. L. Manahan

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THE recent movement for measurement of educational products has awakened a desire on the part of students of educational problems to know the facts concerning the actual working of the marking systems in our colleges and secondary schools. Many studies of the standards used in rating the work of college and high-school students have been made with a view of discovering these facts and thereby of furnishing a basis for developing a more scientific method of rating such work. An excellent summary of many of these studies appeared in a recent number of EDUCATIONAL ADMINISTRATION AND SUPERVISION.*

The study here presented was made in the general high school at Somerville, Mass. This is a large school of about 2000 pupils, 78 teachers, 390 classes reciting daily, and approximately 500 classes reciting weekly. The study aims to present and discuss: first, the method of marking employed; second, the actual distribution of the marks given to a class of 627 pupils (class entering in 1908) during the four years of the high school course; third, a comparison of the distributions in the separate departments, such as mathematics, English, and commercial departments, with the school norm and with each other; fourth, the retardation and elimination for this class; and finally, it suggests other similar and supplementary studies.

METHOD OF TABULATING THE MATERIAL

The following plan of tabulating the data required was evolved:

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* Harold Ordway Rugg: Teacher's Marks and the Marking System. EDUC. ADM. AND SUPERVISION, Vol. I, p. 117, Feb., 1915.

METHOD OF TABULATING THE MATERIAL

	YEARS				DEPARTMENTS		
Student	Fresh.	Soph.	Junior	Senior	Math.	Eng.	Com.
1. A, B. C......	1 23 1 5	A C B D					
2. M, M. E....	1 14 14 1	1 16 10 4	7 25 8	3 15 8	8 4 2	7 12	16 20 2

A	C
E	
B	D

KEY

The initials of each pupil were taken for a check only. This was found advisable because in a few cases it was necessary to refer to certain individual records for verification of certain points. The key to this plan is self-explanatory. The figures in the various squares occupying positions similar to those occupied by the various letters of the key designate the number of the various marks obtained by a student in each year, or in each of the three departments during the four years. Thus student A, B. C. in the Freshman year received one A, four B's, twenty-three C's, five D's, and two E's.

METHOD OF HANDLING AND PRESENTING MATERIAL

Having obtained the desired material the next step necessary was to total the various marks for the separate years and separate departments. The results of this operation are presented in Table I, Page 579. Then, from the data contained in Table 1, a percentage table (Table 2, Page 580) was constructed. This table shows more plainly the relative distribution of the grades for the entire school and for each year and department. One other step in method was deemed necessary to make the results of the study easily understood, namely, a graphical presentation of the various comparisons.

SYSTEM OF MARKING

In this school the letter system of marking has been employed for a number of years. Five marks, A, B, C, D, and E, without +'s and —'s, are used. A, B, and C are considered satisfactory, while D and E are below the passing limit.

Results of the Study

Table 1

In Table 1 will be found the base material for Table 2. It is necessary to explain Table 2 in some detail because the comparisons are based on it. Table 1 is almost self explanatory.

Table 1. Showing the number of the various marks given in the entire school, in the different years, departments, etc.

	A	B	C	D	E
Entire School	5123	13206	16368	3331	346
Freshman	1345	3882	5325	1256	165
Sophomore	1382	3137	4474	930	94
Junior	1194	3149	3768	733	59
Senior	1202	3038	2801	412	28
Freshman and Sophomore	2727	7019	9799	2186	259
Junior and Senior	2396	6187	6569	1145	87
Senior Latin School	321	815	802	160	17
Total=Senior–Lat. Sch. Seniors	881	2223	1999	252	11
Mathematics	615	1295	2218	871	187
English	445	2038	3205	414	26
Commercial	632	2248	2293	390	48

Table 2

Table 1 presented the totals of the records of 627 pupils for four years or such portion of this period as they spent in the high school. To construct Table 2, we have made use of the material found in the corresponding columns of Table 1. Thus, to determine the school distribution by per cent. we took all the marks given by all the teachers to this class (1908–1912) for the four years and computed the percentage that the A's, B's, etc., were of this sum. At first it was thought best, in the construction of the school norm, to use only the marks of those pupils who had spent at least two years in this high school. This was considered because it was feared that by including the many students spending the first or last years only, we would not get a typical and normal distribution. Later it was found best to use, in the establishment of the school norm, all marks given during these four years, regardless of the time spent by the pupil in this school, and also establish a Freshman-Sophomore norm, and a Junior-Senior norm.

The system of preparing the per cent. distribution is the same for each class and department.

Table 2. Showing the percentages of various marks given in the entire school, in the various years, departments, etc.

	A	B	C	D	E
Entire School	13.35%	34.41%	42.91%	8.45%	.90%
Freshman	11.27%	32.43%	44.47%	10.50%	1.38%
Sophomore	13.79%	31.31%	44.66%	9.28%	.94%
Junior	13.41%	35.37%	42.32%	8.23%	.66%
Senior	16.06%	40.61%	37.44%	5.50%	.38%
Fresh. plus Soph.	12.40%	31.92%	44.56%	9.94%	1.18%
Junior plus Senior	14.62%	37.76%	40.09%	6.98%	.53%
Sen. from Lat. School	15.13%	38.53%	37.92%	7.57%	.75%
Total Senior minus Lat. School Seniors	16.42%	41.42%	37.25%	4.69%	.20%
Mathematics	11.80%	25.00%	42.70%	16.80%	3.60%
English	7.26%	33.26%	52.30%	6.75%	.42%
Commercial	11.07%	39.36%	41.90%	6.83%	.84%

Attention should, however, be called to the various Senior distributions. It will be noted that we have a Senior distribution, a Latin school Senior distribution, and a Senior minus the Latin school Senior distribution. The conditions making this classification possible resulted from the union of the Latin school and the general high school in 1911, and the separate one-year records for the pupils entering from the Latin school. Thus, with the records of about 100 Seniors from the Latin school, we are able to make a comparison of groups of graduates who spent the first three years of high-school work in different types of schools in the same city.

Figure 1

Figure 1 presents the school norm, the Freshman distribution, and the Sophomore distribution. With a total of 38,374 marks for the construction of the school norm, it is probable that the distribution obtained is a fair representation of the school as a whole. By referring to the school distribution, represented by the solid dark line, we find that the per cent of failures is almost 10, (8.45% D's and .90% E's), which seems to be fairly close to the practice in rating school work. At any rate many schoolmen set 10% as a fairly satisfactory amount to fall below the passing limit. The per cent. of A's (13.35%) might be considered a little high, but this may be due to the fact that there are only three passing marks. The mode falling near the

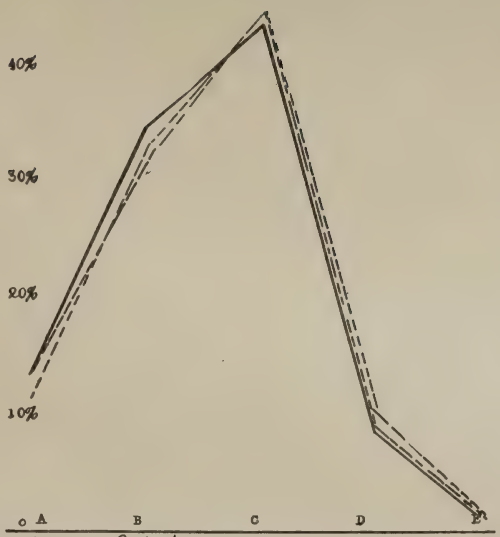

Figure 1. School, Freshman, and Sophomore Distributions Compared.

—— School Distribution.

- - - - Freshman Distribution

— - — Sophomore Distribution.

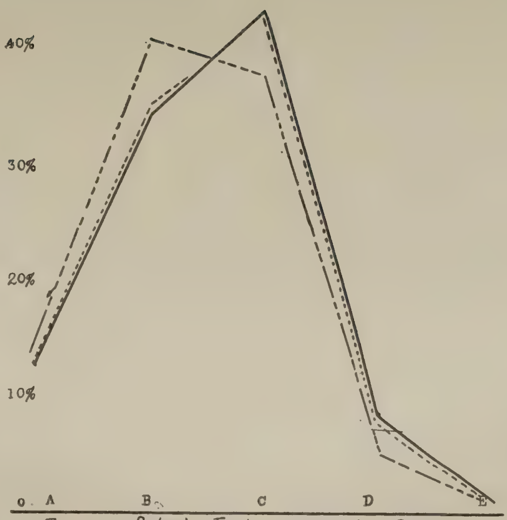

Figure 2 School, Junior, and Senior Distributions Compared.

—— School Distribution

------ Junior Distribution

—·— Senior Distribution.

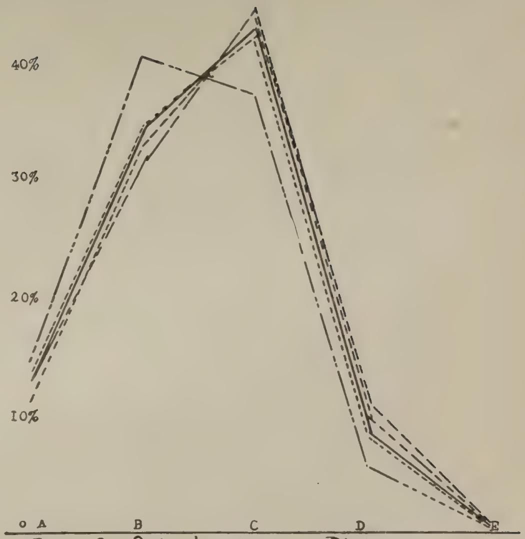

Figure 3 School, and Class Distributions

—— School Distribution,

- - - - Freshman " "

— — — Sophomore " "

--------- Junior " "

—·— Senior " "

passing limit shows that there are more pupils of medium ability and attainment than superior or inferior ones. The Freshman distribution, represented by the medium lengthed dashes, shows that the Freshmen either are inferior students or are marked more severely. We note that there are only 11.28% A's as compared with 13.35% in the school norm. The B's approach the norm more closely while there are 1.56% more C's than in the norm. The most significant feature is the increase in failures from 9.35% to 11.85%. The records show that this increase is due largely to the failures in algebra. In the Sophomore distribution the number of A's has increased beyond the normal; the number of B's has fallen 3.1% below the norm, and 1.12% below the Freshman; the number of C's is about midway between the norm and the Freshman number. There are fewer failures than in the Freshman year, but more than in the school as a whole.

Figure 2

In Figure 2 the Junior and Senior distributions are compared with the school norm. The Junior distribution, represented by the short dashes, shows that there are .06% more A's, .04% fewer B's, and .59% fewer C's than in the school norm, whereas the number of failures falls below the normal, there being only 8.89% who fail to obtain a passing mark. In the Senior distribution we observe that there has been a further selection of ability and attainment, for there are more high marks and fewer failures. Here we note a distribution of 16.06% A's, 40.61% B's, 37.44% C's, 5.50% D's, and .38% E's as compared with the normal distribution of 13.35% A's, 34.41% B's, 42.61% C's, 8.45% D's, and .90% E's.

Figure 3

Figure 3 presents the general tendency of the school from year to year. The Freshman distribution is the farthest below the normal, the Sophomore approaches a little nearer, the Junior distribution is almost identical with the norm, while the Senior distribution passes beyond the school norm thus completing the gradually ascending series of distributions. It will also be noted that the mode of the Senior distribution falls at B, but in all the other cases it is at C. Another point of interest is the gradual decrease in failures from year to year as follows: Freshman, 11.88%; Sophomore, 10.22%; Junior, 8.89%; and Senior, 5.88%.

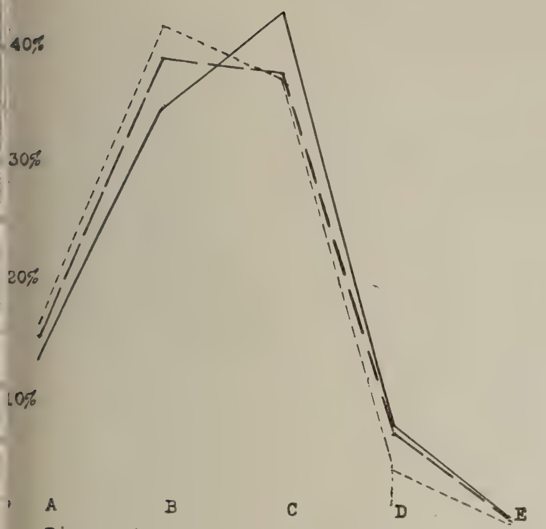

Figure 4. School and Total Seniors minus Latin School-Seniors Distribution.

——School. ----Senior minus Latin School-Senior. — —Seniors from Latin School

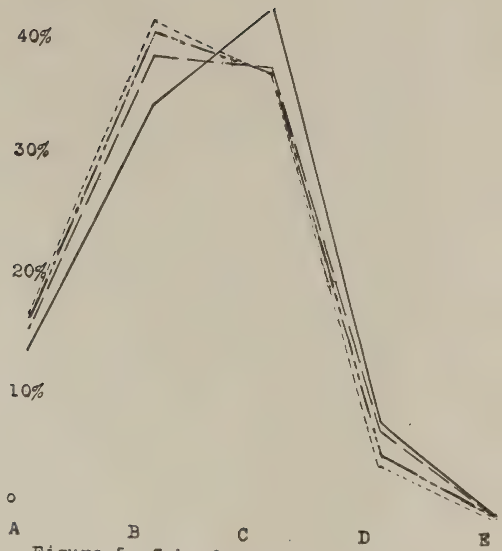

Figure 5. School, Seniors, and Total Seniors minus Seniors from Latin School Distributions.

——School.—--Total Senior. ----Total Senior minus Seniors from Latin School — — Seniors from Latin School.

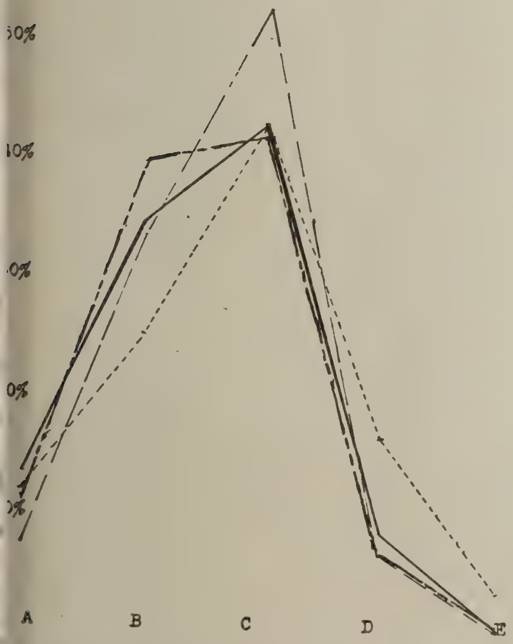

Figure 6. School Distribution and Mathematics, Commercial, and English Distributions.

——School._ _ English. ----Mathematics. —--Commercial.

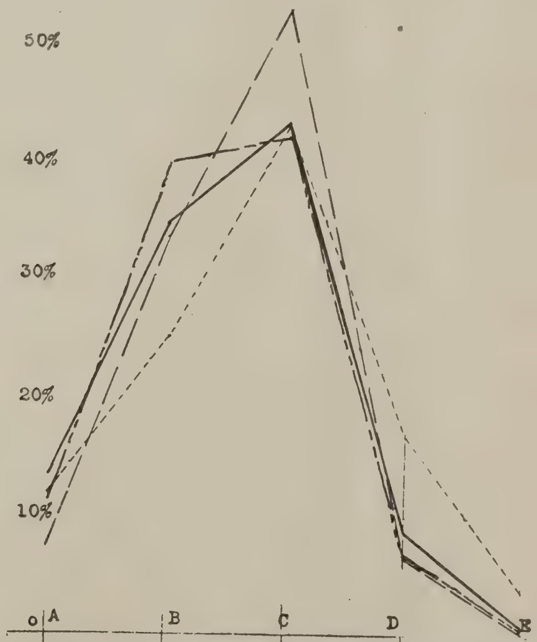

Figure 7. School, Mathematics, English and Commercial Distributions.

——School. ----Mathematics. __ __English. —--Commercial.

Figure 4

In Figure 4 we have the school, the Latin school Senior, and the total Senior minus the Latin school Senior distributions compared. The distribution represented by long dashes shows that the mode has changed from C to B, and that there are fewer failures among the Latin school Seniors. These changes seem to show that Latin school pupils are rated higher than the pupils of the entire school. The dotted line, representing the distribution of the marks obtained by subtracting the marks of the Seniors from the Latin school from those given to all the Seniors, shows a slight advance over the distribution for the Latin school Seniors alone, the high marks being more numerous while the failures are fewer. This difference is shown more clearly in Figure 5, in which the various Senior distribution curves are plotted on the same graph.

Figure 5

Figure 5 presents the total Senior, the Latin school Senior, and the total Senior minus the Latin school Senior distributions compared with the school norm. It will be noted at once that in all the Senior distributions the mode falls at B instead of at C as in the school norm. The curves show that the Latin school Seniors fail to obtain as high a rating as the pupils who spent their whole time in this school. This may be due to the fact that the Latin school Seniors are inferior students, or they may be handicaped by the new conditions in this school. It is quite likely, too, that the subjective element (of the teachers) in marking would favor the pupils who spent full time in the one school.

Figure 6

In Figure 6 is presented a comparison of the school norm, the English, mathematics, and commercial distributions. The distribution for the mathematical department, represented by the dotted dark line, is undoubtedly the most radical departure from the norm of any of the distributions in this study. While it is usually true that in the department of mathematics a greater per cent. of the pupils fail, this, nevertheless, seems to be an extreme case. It will be noted that the mode approximates the normal mode, whereas the B's and A's fall far below the normal. The increase in failures from 9.35% (normal) to 20.40% (mathematics) is evidence of some abnormal condition in this department. The fact that algebra (Freshman year) and geometry (Sophomore year) are required of all students would probably account for a slight increase in the per cent. of failures, but should not double the normal number. From the records it was observed that the majority of failures came in the Freshman algebra course. The unusually large number of failures in this course ought to suggest two questions: (1) are the teaching and marking satisfactory? and (2) is the course properly suited to the needs of the pupils? The problem is certainly one inviting a close analytical study on the part of the teachers and administrative authorities. If it should be found that the algebra and geometry as now taught cannot be made interesting to the pupils and vital in their lives, some change in subject-matter or method of teaching certainly ought to be made.

A study of the English distribution, represented by the long dashes, shows fewer high marks than given by the school as a whole and at the same time shows fewer failures. The marked feature of this distribution is the great number of C's, which has been increased from 42.91% (normal) to 52.3% (English), an increase of almost 10%. This shows that more than half of the pupils attain marks but little beyond the failure limit.

When we stop to consider the commercial course, a course of last resort, or, as one person said, "a hospital course," we must admit that in this distribution we have a unique situation. When the writer began this study he was informed by some persons who professed to be prophets in this particular line that he would find the commercial department marking far more leniently and giving more high marks than any other department or even the school in general. Figure 6 shows, however, that this distribution approximates the school norm more closely than any other departmental distribution curve, there being but one group above the normal distribution, whereas there are about 1.68% fewer failures. Considering the results of other similar investigations and the predictions of many schoolmen concerning the commercial work we must admit that this commercial department would serve as a fair example to the other departments.

Figure 7

Figure 7 shows immediately the variations of marking in the departments when compared with each other and with the

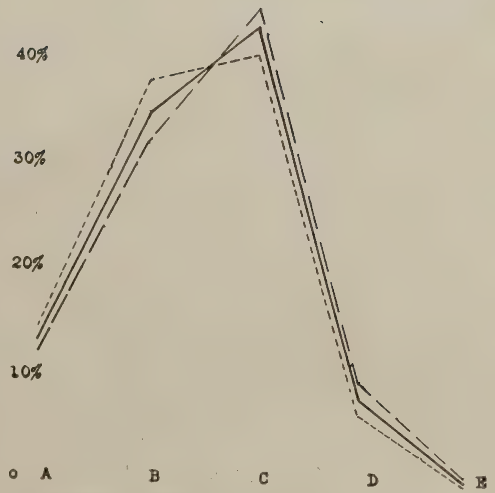

Figure 8. School Distribution, Freshman # Sophomore Distribution, and Junior # Senior Distribution.
——School. — — Fresh # Soph.
----Junior # Senior.

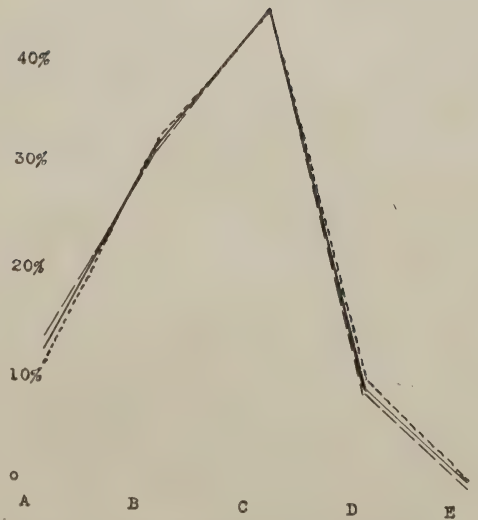

Figure 9. Freshman # Sophmore, Freshman, and Sophomore Distributions
—— Fresh.#Soph ----Freshman. – – Sophomore

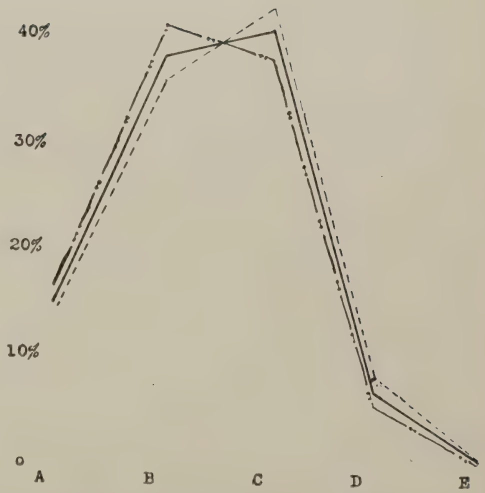

Figure 10. Junior # Senior, Junior, and Senior Distributions
——Junior # Senior. ------Junior.
——.. Senior.

school norm. It will be noted that the mode remains at C in all the distributions, but ranges from 41.9% (commercial) to 52.3% (English). The mathematics department alone has almost as many failures (20.40%) as the school norm plus English plus commercial (9.35% plus 7.17% plus 7.67% = 24.19%). It will be noted further that each department gives fewer A's than the entire school, thus indicating that some other department (not included in this study) must mark much above the school norm in order to make up for the deficit in these departments.

Figure 8

Figure 8 presents the school norm, the Freshman + Sophomore norm, and the Junior + Senior norm. It was thought wise and instructive to construct these other norms because so many pupils do not pass beyond the Sophomore year. In this figure we observe that all the modes fall at C; that the Junior-Senior norm ranks higher than the school norm, whereas, the Freshman-Sophomore norm falls below the school norm. More of the Freshman-Sophomore pupils are classed at C.

Figure 9

Figure 9 shows that the modes in the Freshman-Sophomore, Freshman, and Sophomore distributions are almost the same. The Freshman distribution curve shows fewer A's and more failures, whereas the Sophomore distribution curve shows more A's and fewer failures than the norm.

Figure 10

In Figure 10 we note a much wider variation from the two-year norm than was shown in Figure 9. Here we note a marked difference between the Junior-Senior distributions and each of the yearly distributions. The change of the mode from C (Junior) to B (Senior) is important, for it will be noticed that it was too small a change to carry the mode of the two-year distribution from C to B.

Figure 11

In this brief study of retardation and elimination we have considered only those pupils who entered the Freshman class in 1908. No account has been taken of pupils who entered during any of the following years. We note by the chart that, of the

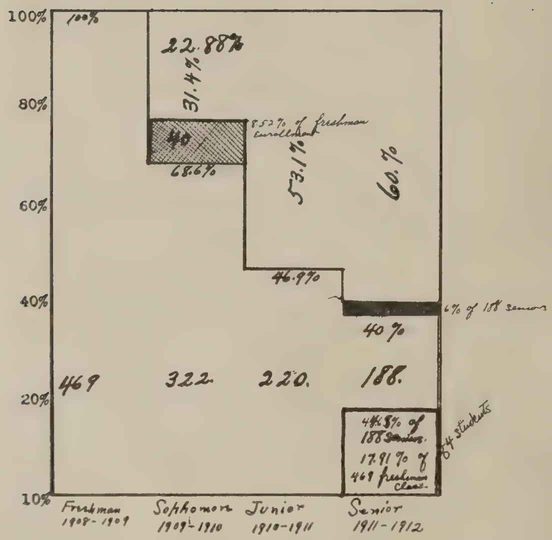

Figure 11. Retardation and Elimination Chart, Showing Diminution in Numbers of the Original Freshman Class through Successive Years

Education 20 a.
Education 20 a.

469 pupils entering in 1908, 322 returned the following year, 220 advanced to the Junior class, and 188 enrolled in the Senior class. The enrollment during the successive years expressed in per cent. of Freshman enrollment is as follows: Freshman, 100%; Sophomore, 68.6%; Junior, 46.9%; and Senior, 40%. At the top of the Sophomore column we have placed a barred section which shows the number of pupils (40) passing in the Freshman year but not returning the following year. Above the crooked line dividing the chart diagonally will be noted the figures (written vertically) showing the per cent. of retardation and elimination in the successive years. Thus, in the Sophomore column, we observe that 31.4% of the pupils enrolled in the preceding year are no longer included in the ranks of their classmates. The retardation and elimination in the Junior and Senior years increase to 53.1% and 60% respectively. At the top of the column indicating the enrollment in the Senior year is a dark column which shows the number, of these 188 Seniors, who were unable to graduate. Subtracting these from the original 188 we see that, of the 469 entering the Freshman class in 1908, only 177 continue through graduation. Thus, we see that of this large class only 37.74% succeeded in receiving a high school diploma.

At the lower right hand corner of figure 11 is a square, bounded by a heavy line, which indicates the portion of the original Freshman class completing the four years' work without a condition or partial condition. Of the 469 pupils entering in 1908 only 84 or 17.91% were able to graduate without having a failure stamped upon their high school record. At first this impresses one as being a very small number to remain above the failing mark in all of their work during the high school course, but it should be noted that I have arbitrarily chosen a fairly high standard for selection.

OTHER STUDIES

Numerous other studies are suggested by the present one. I shall refer to only two types, similar studies and supplementary studies, which impress me as being both practical and valuable. Of the similar studies suggested some are:

(1) Studies of the general character of this one, conducted in a number of other high schools. These studies should include

representatives from the various groups or types of high schools, as (a) studies in general high schools

(b) studies in Latin schools

(c) studies in vocational schools.

(2) Similar studies conducted in the grammar schools in a single city and in different cities.

(3) A similar study made in different colleges and a comparison of results.

There are many supplementary studies which would be valuable in connection with the present study and the similar ones suggested. Some of these are:

(1) Studies of the marks in departments not included in this study.

(2) A study of the distribution of marks given by individual teachers in the different departments, especially in the mathematics department, because of the abnormal distribution of marks shown in this study.

(3) Study the subjective element in marking, by having several teachers in a single department mark the same paper or same set of papers.

(4) Make an investigation to learn how many of the pupils failing in one year repeat the work the following year.

(5) Study to find out to what extent pupils approaching the failing limit drift into some vocational course.

(6) Make a comparison of studies conducted separately for the boys and girls.

What Training School Facilities Are Provided in State Normal Schools

F. J. Kelly

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and

Ira O. Scott

Principal High School, Marion, Kansas

ADVANCE in the teaching of both biological and physical science has been marked by constantly increasing emphasis upon laboratory work. Today the science work in both high schools and colleges is judged very largely by the laboratory equipment which they provide. These laboratories are not maintained with the primary purpose of new discoveries, but rather as a means whereby the science already established may be the better taught to students.

While it is not safe to press the analogy between physical science and the science of education too far, it is, perhaps, true that the analogy is closest in respect to the methods of teaching the two sciences successfully. Practically all the normal schools of the country recognize the scientific nature of education sufficiently to establish laboratories in the form of training schools of some sort. If the laboratory method of teaching other sciences is sound for the teaching of science of education, then one important standard by which to judge of the efficiency of the normal schools must be the adequacy of the laboratory facilities provided by the several institutions.

Accordingly the following questionnaire was addressed to more than a hundred of the best normal schools of the North and West. In formulating the questionnaire, effort was made to state the questions in such form that the data received from schools of widely different types of organization would be comparable.

Kansas State Normal School
Emporia, Kansas

December 3, 1914

To the Directors of Training Schools.

The questionnaire appearing below is addressed to heads of training departments in all the state normal schools of most of the northern and western states. Its purpose is to determine the facilities which are afforded for practice teaching and for the supervision of practice teachers. We are not duplicating the questions asked five years ago by Mr. W. H. Sanders,[1] Director of the Training School of La Crosse, Wisconsin, but hope to supplement his findings. The results of the questionnaire will be made available to all who respond.

A stamped addressed envelope is enclosed for your use.

Very respectfully yours,
F. J. KELLY,
Director of the Training School

QUESTIONNAIRE

Please consider each of the following questions as referring to the school year from September to June, and as referring to grades below the high school and above the kindergarten unless otherwise specified.

(1) Approximate average attendance
  (a) Kindergarten ....
  (b) Elementary (Grades 1–8) ....
  (c) High (Grades 9–12) ....
  (d) Normal (Grades 13–14) ....
  (e) Above Grade 14 ....

(2) Is the training school a part of the city school system? ....
If so, please state the essential points in the scheme of co-operation between city and normal school.

(3) Total membership of normal school faculty including training school faculty. ....

(4) Not counting special subject supervisors, how many members in the faculty of the several divisions of the training school.
Kindergarten .... Elementary .... High School ....

(5) What subjects are supervised by other faculty members than those included in Question 4?
......................., ..., ..., ...,
......................., ..., ..., ...

(6) About how many practice teachers does each of your critic teachers have under her supervision during any given term of practice teaching? ....

(7) About what proportion of the school periods do the critic teachers spend in teaching because no practice teachers are assigned to the class for these periods? ....

(8) For graduation from the regular normal course, what amount of practice teaching is required?
Minutes per day ....
Number of weeks ....

---

[1] Results of Mr. Sanders's questionnaire were given in the Pedagogical Seminary, March, 1913.

(9) How often do the practice teachers change their work? ....
Do they change pupils? ....
Do they change subject matter taught? ....

(10) About what proportion of the practice teaching do the arrangements of the school permit to be seen by the supervisor or critic? ....

(11) What subject matter reviews and special methods courses are required of students before they are allowed to begin practice teaching? ....

(12) Do you have practice teaching in the high school? ....
If so, please give the essentials of your plan.

(13) Do you have certain classes of children which are not instructed by practice teachers, but which are used for trying out educational theory experimentally? ....

Address .... Signed ....
.... Official Position ....

The adequacy of facilities for laboratory work implies always a ratio between the equipment provided and the number of students who are to use it. Equipment depends chiefly upon the quality and quantity of apparatus. In training schools the quality is about the same from school to school, since children constitute the material. The adequacy, then, of the training school facilities may be fairly measured by the numbers of children and critic teachers in comparison with the number of student teachers using the school as a laboratory each year.

Sixty-eight replies to the questionnaire were received.

The data reveal four different approaches to the question of adequacy of training school facilities. These may be stated in the following questions:

1. How many times greater is the enrollment of the normal school (the first two years above high school) than the enrollment of the training school (Grades 1–8)?
2. How many children are there in the training school for each student teacher who works with them during the year?
3. How many student teachers per year for each critic teacher in the training school?
4. How many times greater is the entire faculty of the institution than the faculty of the training school?

The answers to these four questions are given in order in Tables I, II, III, IV.

Table I

Distributions of *Ratios* between Normal School Enrollment and Training School Enrollment.

(This table reads: Nine schools have not more than half as many students in the normal school as they have in the training school; seven have more than half as many but not more than as many in the normal school as in the training school, etc.)

Ratios	No. of Schools
.5 or less	9
.51–1.00	7
1.01–1.50	8
1.51–2.00	7
2.01–2.50	3
2.51–3.00	4
3.01–3.50	3
3.51–4.00	0
More than 4.00	9

The nine institutions in which the enrollment in the normal school is less than half that in the training school consist largely of those using the entire public schools of the city for training purposes. In most of these cases the city pays a good share of the maintenance cost of the training school. The nine schools at the other extreme of the distribution comprise those institutions in which the training school is largely a school of observation. Excepting these two extremes, the central tendency seems to be for the normal-school enrollment in the two grades above the high school to be from one to two times as great as the enrollment in the elementary grades of the training school, with nearly half the cases falling below one and a half times.

Table II

Distribution of ratios between the number of children in training schools and the number of student teachers each year.

Ratios	No. of Institutions
0–.5	2
.51–1.0	3
1.01–1.5	12
1.51–2.0	9
2.01–2.5	8
2.51–3.0	3
3.01–3.5	6
3.51–4.0	3
4.01–4.5	3
4.51–5.0	1
More than 5.0	7

We find from this table that the central tendency is for training schools to have about 2.2 times as many children as student teachers who work with them during the year.

Table III

Distribution of ratios between the number of student teachers per year and the number of critic teachers who supervise them.

Ratios	No. of Institutions
0–5.	5
5.1–10.	12
10.1–15.	18
15.1–20.	13
20.1–25.	9
25.1–30.	4
30.1–35.	0
35.1–40.	1

From this table it appears that the central tendency is for each critic teacher to supervise about fourteen student teachers a year.

Table IV

Distribution of ratios between the number in the entire faculty of the institution and the number of critic teachers in the training school.

Ratios	No. of Institutions
1.1– 2.	5
2.1– 3.	4
3.1– 4.	8
4.1– 5.	10
5.1– 6.	5
6.1– 7.	6
7.1– 8.	5
8.1– 9.	4
9.1–10.	3
10.1–11.	2
11.1–12.	5
12.1–13.	1
Above 13.	4

From this it appears that the number of critic teachers tends to be between one-fifth and one-sixth of the entire faculty. This is exclusive of the special subject supervisors who have charge of such subjects as music, drawing, physical training, manual training, and home economics.

Another standard by which we can measure the emphasis laid upon educational laboratory work is the number of hours of student teaching which the institution requires for graduation from its regular course. That is shown in Table V.

Table V

Distribution of Number of Hours of Student Teaching Required for Graduation.

Hours of teaching	No. of Institutions
25– 50	1
51– 75	2
76–100	4
101–125	9
126–150	12
151–175	13
176–200	5
201–225	4
226–250	1
251–275	1
276–300	0
301–325	1
326–350	3
351–375	0
376–400	0
401–above	3

From this table we note that the central tendency is for the schools to require about one hundred sixty hours of student teaching.

Summarizing from these five tables we may say that the institution giving about the median amount of emphasis to training school work is one which,

(1) has about 1.6 times as many students in Grades 13 and 14 as in Grades 1 to 8;

(2) has about 2.2 times as many children in the training school as student teachers during the year;

(3) has about fourteen student teachers each year to each critic teacher;

(4) has about five and a half times as many members in the entire faculty as in the training-school faculty; and

(5) requires about one hundred sixty hours of student teaching for graduation.

It may be said further that that institution is giving less emphasis to training-school work than seventy-five per cent. of the state normal schools of the North and West.

(1) if the enrollment of the training school is less than one third the enrollment of the normal school (Grades 13 and 14);

(2) if the number of children in the training school is less than 1.35 times the number of student teachers who work with them each year;

(3) if there are more than nineteen student teachers to each critic teacher per year;

(4) if the whole faculty is more than nine times the number of critic teachers;

(5) if less than one hundred twenty-five hours of student teaching is required for graduation.

These standards should be of practical service to superintendents who are in the business of selecting teachers. The efficiency of teachers prepared in the various normal schools depends in greater or less degree upon how well the normal school measures up to these standards of training-school facilities. It behooves the superintendents in any state, therefore, to examine their own state normal schools, and to insist that they meet the standard in this important particular.

Besides these data bearing upon the adequacy of training-school facilities, the questionnaire revealed certain other tendencies worthy of note in the administration of normal schools. From Question 5 we learn that the custom of having the work in music, drawing, physical training, manual training, and domestic economy supervised by special teachers of these subjects has become very general. This plan of special subject supervision has extended to all the subjects in the grammar grades in several schools, and even to all the work of the grades in a few schools.

Forty of the sixty-eight schools reporting maintain kindergarten departments in the training schools. Of these, about two-thirds have one kindergarten supervisor, while the other third have two or more kindergarten supervisors.

Question 7 was designed to learn whether or not the number of student teachers assigned to the training school taxed the facilities to the limit. Fifty-nine institutions answered the question. Of these, twenty-four have all periods assigned to student teachers; sixteen other schools have four-fifths or more of the time assigned to student teachers; thirteen others have more than half the time assigned to student teachers.

A large majority of training schools change the assignment of student teachers every nine to twelve weeks. In this change the student teacher is usually given a different class of children and a different subject to teach.

Not quite half of the training schools are so organized that the critic teachers may see all of the teaching work of the student teachers whom they supervise; sixteen report that the critic teachers can see half the work or less.

As prerequisite for teaching in the training school, about half the institutions require special methods in the subject to which the student teacher is assigned.

About two-fifths of the institutions have some student teaching in the high school. In many of these the reports say "very little." However, the normal schools seem to have entered definitely into the field of preparing high-school teachers. The replies indicate that student teaching in high school will be introduced next year by three more normal schools. In this high-school teaching the same plan of supervision is used, in general, as is used in the grades. Sometimes a general high-school supervisor acts as critic of student teaching in high-school subjects. Sometimes the heads of departments supervise the work. Sometimes a combination of these two plans. No distinctive features were revealed in the replies.

Ten schools have some facilities for trying out educational theory experimentally. Fifty-eight schools have none, or, at least, none which requires the setting aside of certain classes of children for that specific purpose. Apparently the laboratory maintained by the normal schools for the science of education is not yet much used for the advancement of the science itself.

It has been claimed that the full function of the training school includes three rather distinct types of service. First, the training school should afford a place where the inexperienced teacher may get her first practice under close supervision. Second, the training school should serve as a model school for observation purposes. Third, the training school should afford facilities for the study of education with a view of advancing the science itself. It seems doubtful whether training schools which serve so generously the purposes of practice teaching as our state normal schools do can render effectively the latter two types of service.

A Study of the Preferences of Secondary School Pupils for the Various Subjects, and Their Reasons for the Preferences

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IN the October number of this Journal the writers reported the results of a study of the preferences of the pupils of the Horace Mann High School for Girls and of the School for Boys for the various subjects and of the reasons for the preferences. The study included also an investigation of the relationship between the utility of a subject as judged by a pupil and the preference of the pupil for the subject.

The conclusions reached by the study of the data from these two schools suggested to the writers the desirability of extending the investigation to include other large secondary schools. Through the co-operation of the supervisors and teachers data were secured from the secondary schools of Decatur, Illinois; Dubuque, Iowa; and Hackensack, New Jersey. It was thought wise to secure the data from schools quite widely separated geographically. The method of securing and tabulating the data was the same as that described in the previous study.* The investigation included 1600 cases, about 40 per cent. of which were boys.

The data and conclusions reached in the study of the relationship between utility and preference are reported in detail in the November number of the Teachers College Record, New York City.

The investigation reported in these pages is a study of the data secured from the pupils of Decatur, Dubuque, and Hackensack in answer to the following:

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* Educational Administration and Supervision, October, 1915.

TABLE I.

School	Choice		Algebra	Arithmetic	Art	Biology	Bookkeeping	Botany	Chemistry	Civics	Commercial Law	Domestic Science	Economics	Elementary Science	English	French	Geography	Geometry	German	Grammar	History	Latin	Manual Training	Mechanical Drawing	Penmanship	Physical Geography	Physics	Physiology	Psychology	Spanish	Stenography	Trigonometry	Typewriting	Zoölogy
DECATUR	First..	Boys...........	42	31	8	..	45	8	24	13	..	..	..	..	18	..	0	23	14	7	11	10	28	33	..	26	26	7	..	..	9	..	21	11
		Girls...........	27	25	29	..	50	8	10	9	..	30	..	..	41	..	..	6	21	0	7	19	..	..	..	4	27	9	..	..	50	..	24	3
		Boys and Girls.	34	23	24	..	47	8	18	11	42	30	..	..	31	..	3	16	18	3	9	15	27	32	..	10	26	8	30	..	29	..	22	7
	Second	Boys...........	23	29	12	..	23	15	33	7	..	..	..	..	24	..	41	22	19	17	17	15	25	28	..	20	39	15	..	..	27	..	21	14
		Girls...........	31	33	14	..	14	8	10	27	..	29	..	..	28	..	..	22	28	9	14	21	..	..	..	12	0	4	..	..	10	..	36	23
		Boys and Girls.	27	31	14	..	20	12	24	15	25	29	..	..	26	..	39	22	25	13	15	18	24	27	..	16	26	10	40	..	19	..	27	18
	Third.	Boys...........	18	16	21	..	15	8	15	20	..	..	..	..	27	..	24	21	26	7	26	22	22	16	..	20	22	11	..	..	18	..	32	29
		Girls...........	24	29	13	..	27	33	30	27	..	21	..	..	20	..	..	22	21	26	22	20	..	..	..	10	36	22	..	..	40	..	25	19
		Boys and Girls.	21	21	15	..	19	20	21	23	0	21	..	..	23	..	23	21	23	17	23	21	24	18	..	15	26	16	20	..	29	..	27	24
	Last...	Boys...........	11	11	37	..	8	23	24	13	..	..	..	..	16	..	38	9	25	31	25	50	19	12	..	33	13	30	..	..	36	..	18	32
		Girls...........	13	13	26	..	14	8	40	56	..	10	..	..	9	..	..	31	19	24	43	29	..	..	..	38	45	35	..	..	0	..	15	42
		Boys and Girls.	12	12	30	..	10	16	30	27	25	10	..	..	12	..	37	18	21	27	41	38	20	11	..	35	23	32	0	..	19	..	15	37
DUBUQUE	First..	Boys...........	21	17	..	..	33	..	50	..	..	..	23	..	24	8	..	26	10	27	15	..	43	26	..	0	40	..	..	..	20	56	12	
		Girls...........	16	20	..	..	23	..	13	..	..	35	..	..	40	..	..	24	12	42	7	..	..	..	..	11	9	..	20	..	25	..	28	
		Boys and Girls.	18	19	..	..	28	..	35	..	..	35	17	..	36	5	..	25	11	35	11	..	41	..	..	5	28	..	17	..	23	60	22	20
	Second	Boys...........	17	34	..	..	33	..	23	..	..	..	12	..	29	25	..	29	6	27	19	..	20	33	..	22	22	..	..	..	30	19	38	
		Girls...........	20	31	..	..	8	..	20	..	..	31	..	..	27	..	..	17	19	19	28	..	..	..	..	15	21	..	26	..	21	..	24	
		Boys and Girls.	19	32	..	..	20	..	22	..	..	31	17	..	28	37	..	24	14	23	23	..	22	..	..	18	22	..	33	..	23	20	30	13
	Third.	Boys...........	27	38	..	..	17	..	18	..	..	..	29	..	22	33	..	22	30	4	38	..	10	19	..	56	27	..	..	..	0	19	7	
		Girls...........	28	34	..	..	36	..	33	..	..	17	..	..	16	..	..	24	33	26	35	..	..	..	..	29	54	..	44	..	19	..	24	
		Boys and Girls.	28	35	..	..	26	..	24	..	..	17	35	..	19	31	..	23	32	16	37	..	9	..	..	39	28	..	39	..	13	6	16	46
	Last...	Boys...........	27	21	..	..	17	..	14	..	..	..	29	..	17	43	..	24	57	19	22	..	20	30	..	33	15	..	..	..	20	12	44	
		Girls...........	34	22	..	..	23	..	60	..	..	7	..	..	14	..	..	38	48	13	38	..	..	..	..	38	57	..	77	..	0	..	24	
		Boys and Girls.	32	22	..	..	20	..	32	..	..	7	26	..	15	37	..	31	51	16	29	..	24	..	..	36	29	..	73	..	5	10	30	40

TABLE I—*Continued*

School	Choice		Algebra	Arithmetic	Art	Biology	Bookkeeping	Botany	Chemistry	Civics	Commercial Law	Domestic Science	Economics	Elementary Science	English	French	Geography	Geometry	German	Grammar	History	Latin	Manual Training	Mechanical Drawing	Penmanship	Physical Geography	Physics	Physiology	Psychology	Spanish	Stenography	Trigonometry	Typewriting	Zoölogy
HACKENSACK	First. .	Boys.	34	40	. .	. .	38	. .	17	. .	. .	. .	. .	17	18	6	17	35	13	0	12	7	11	. .	17	7	33	. .	. .	31	28	21	29	
		Girls.	24	41	17	. .	37	. .	16	18	. .	50	. .	7	27	19	8	22	23	5	15	10	0	. .	5	14	6	. .	. .	36	29	. .	30	
		Boys and Girls.	28	40	20	13	38	. .	16	15	. .	50	. .	12	23	14	12	28	18	3	14	8	8	. .	10	9	15	. .	. .	34	28	20	29	
	Second	Boys.	17	20	. .	. .	28	. .	37	32	. .	. .	. .	28	15	18	8	27	21	17	28	22	11	. .	3	13	10	. .	. .	19	31	21	31	
		Girls.	16	26	33	. .	24	. .	19	23	. .	14	. .	7	29	24	17	26	16	15	18	25	0	. .	12	0	14	. .	. .	0	31	. .	20	
		Boys and Girls.	17	22	33	13	26	. .	28	31	. .	14	. .	18	23	22	13	27	18	16	22	24	8	. .	8	9	13	. .	. .	7	31	15	24	
	Third.	Boys.	17	32	. .	. .	30	. .	17	. .	. .	. .	. .	17	18	33	17	16	30	58	22	15	19	. .	17	20	19	. .	. .	25	19	36	14	
		Girls.	17	33	17	. .	10	. .	16	12	. .	14	. .	19	23	27	21	12	25	21	20	20	23	. .	29	29	23	. .	. .	32	19	. .	18	
		Boys and Girls.	17	33	20	0	15	. .	16	8	. .	14	. .	18	21	29	19	14	26	35	21	18	20	. .	24	23	21	. .	. .	29	19	25	17	
	Last. . .	Boys.	15	0	. .	. .	8	. .	17	. .	. .	. .	. .	22	29	18	17	8	24	8	38	47	25	. .	20	40	24	. .	. .	0	3	7	14	
		Girls.	22	19	17	. .	22	. .	29	41	. .	. .	. .	44	8	14	13	22	18	11	31	28	61	. .	24	43	31	. .	. .	12	10	. .	17	
		Boys and Girls.	18	10	20	40	14	. .	23	38	. .	. .	. .	32	15	15	15	16	21	10	34	35	38	. .	23	41	29	. .	. .	7	6	15	16	

I. In the list of subject below, number each subject now on your program in the order of your preference. (Indicate by Number 1 the subject that you like best, by Number 2 the subject that you like next best, etc.) (Then followed a list of all of the subjects on the curriculum in alphabetic order.)

II. If you were permitted to drop any subject now on your program what would you drop? Why?

III. What subjects, if any, do you think should be added to the course of study in your school? Why?

The figures of Table I indicate the per cent of pupils naming each subject as first, second, third, and last in preference. These per cents are based on the number of pupils taking the subject. Thus 42 per cent of the boys and 27 per cent of the girls of Decatur who were studying algebra named it as their first preference. The corresponding per cents for the boys and girls of Dubuque are 21 and 16. If fewer than ten boys or ten girls had a given subject on their program the per cents are not recorded separately. However, the per cent may be found recorded for boys and girls combined in all cases where the total number taking the subject was not less than ten. Thus, under the heading First Choice, no per cent is recorded under art for the boys of Hackensack. 17 per cent is recorded for the girls and 20 per cent for boys and girls combined. Fewer than ten boys or ten girls of Hackensack studied biology, but the combined number exceeded ten, hence a per cent (13) is recorded.

The data of Table I are tabulated in more convenient form in the tables which follow.

In Table II the subjects are arranged from the highest to the lowest as judged by the first choice. Thus bookkeeping was given as first choice by the largest per cent of boys of Decatur, algebra was given as first choice by the next largest per cent, etc. Of the commercial subjects bookkeeping is ranked comparatively high by boys and the girls of all three schools, although it is ranked higher by the boys than by the girls. On the other hand, the girls rank stenography and typewriting much higher than do the boys. In each school, the boys give English a central position, but the girls rank it much higher. With the exception of Spanish for Hackensack and Latin for the girls of Dubuque, the languages are ranked comparatively low. It is worthy of note that each language is ranked higher by the girls

TABLE II

Ranking of Subjects as Judged by First Choice

	DECATUR		DUBUQUE		HACKENSACK	
	Boys	Girls	Boys	Girls	Boys	Girls
1	Bookkeeping	Stenography	Trigonometry	Grammar	Arithmetic	Domestic Science
2	Algebra	Bookkeeping	Chemistry	English	Bookkeeping	Arithmetic
3	Mechanical Drawing	English	Manual Training	Domestic Science	Geometry	Bookkeeping
4	Arithmetic	Domestic Science	Physics	Typewriting	Algebra	Spanish
5	Manual Training	Art	Bookkeeping	Stenography	Physics	Typewriting
6	Physics	Algebra	Grammar	Latin	Spanish	Stenography
7	Physical Geography	Physics	Mechanical Drawing	Geometry	Typewriting	English
8	Chemistry	Arithmetic	Geometry	Bookkeeping	Stenography	Algebra
9	Geometry	Typewriting	English	Arithmetic	Trigonometry	German
10	Typewriting	German	Economics	Psychology	English	Geometry
11	English	Latin	Algebra	Algebra	Chemistry	French
12	German	Chemistry	Stenography	Physics	Elementary Science	Civics
13	Civics	Civics	Arithmetic	Chemistry	Geography	Art
14	History	Physiology	History	German	Penmanship	Chemistry
15	Zoölogy	Botany	Typewriting	Physical Geography	German	History
16	Latin	History	German	History	History	Physical Geography
17	Stenography	Geometry	French		Manual Training	Latin
18	Art	Physical Geography	Latin		Latin	Geography
19	Botany	Zoölogy	Physical Geography		Physical Geography	Elementary Science
20	Physiology	Grammar			French	Physics
21	Grammar				Grammar	Grammar
22	Geography					Penmanship
23						Manual Training

TABLE III

Ranking of Subjects as Judged by the Combination of the First Three Choices

	DECATUR		DUBUQUE		HACKENSACK	
	Boys	Girl	Boys	Girls	Boys	Girls
1	Bookkeeping	Stenography	Trigonometry	English	Bookkeeping	Domestic Science
2	Algebra	Bookeeping	Chemistry	Grammar	Arithmetic	Bookkeeping
3	Physics	English	Physics	Domestic Science	Geometry	Stenography
4	Mechanical Drawing	Domestic Science	Manual Training	Typewriting	Algebra	English
5	Arithmetic	Typewriting	Bookkeeping	Arithmetic	Stenography	Typewriting
6	Manual Training	Arithmetic	Mechanical Drawing	Psychology	Typewriting	Arithmetic
7	Chemistry	Algebra	Geometry	Stenography	Spanish	Spanish
8	Physical Geography	German	English	Geometry	Physics	Art
9	Typewriting	Art	Arithmetic	Bookkeeping	Trigonometry	Geometry
10	History	Latin	Grammar	Algebra	Elementary Science	French
11	English	Physics	Typewriting	Physics	Chemistry	German
12	Geometry	Civics	Stenography	Latin	History	Algebra
13	German	Geometry	Algebra	Chemistry	German	Civics
14	Geography	Chemistry	Economics	History	English	Chemistry
15	Stenography	Zoölogy	History	German	Geography	History
16	Zoölogy	History	French	Physical Geography	French	Latin
17	Latin	Botany	Physical Geography		Latin	Geography
18	Civics	Physiology	Latin		Grammar	Physics
19	Art	Physical Geography	German		Manual Training	Physical Geography
20	Botany	Grammar			Penmanship	Grammar
21	Grammar				Physical Geography	Penmanship
22	Psychology					Elementary Science
23						Manual Training

than it is by the boys. While the mathematical subjects are widely distributed, in the majority of cases they occur in the upper half of the table. In both Decatur and Hackensack arithmetic, algebra, and geometry are ranked higher by the boys than by the girls. Chemistry and physics also vary greatly in rank and, without exception, they are ranked higher by the boys than by the girls. The boys give these subjects a comparatively high rank. History is ranked low by the boys and girls of all three schools. Both manual training and domestic science rank high in Decatur and Dubuque. In Hackensack the girls rank domestic science first, but the boys rank manual training very low.

Table III was formed from Table I in the following manner: The per cent of pupils giving a subject as first choice was multiplied by five, the per cent giving it as second choice was multiplied by three, and the per cent giving it as third choice was multiplied by one. The three products thus obtained for each subject were then added and the subjects were arranged from the highest to the lowest according to these sums. Since this table combines the first three choices it is, perhaps, the most reliable of any of the tables drawn from Table I. The conclusions reached by the study of Table II will, with few exceptions, apply to Table III.

In Table IV the subjects are arranged according to the per cent of pupils naming each subject as last choice. The absence of a horizontal line between subjects in this and in the following table indicates a tie in rank. Thus the same per cent of the boys of Dubuque ranked English and bookkeeping as last choice. The subject most favorably considered is stated first. Thus, in Decatur, algebra was named as last choice by the smallest per cent of boys, bookkeeping by the next smallest per cent, etc. One would expect the subjects to occupy about the same relative positions as in Tables II and III. That is, if a large per cent of pupils named a subject as first in preference a small per cent would have named it as last in preference. This is true only in the most general sense. Some of the more striking variations are in physical geography for the boys of Decatur; botany and physics for the girls of Decatur; economics for the girls of Dubuque; grammar, physics, and English for the boys of Hackensack; and grammar and geography for the girls for Hackensack.

TABLE IV

Ranking of Subjects as Judged by Last Choice

	DECATUR		DUBUQUE		HACKENSACK	
	Boys	Girls	Boys	Girls	Boys	Girls
1	Algebra	Stenography	Trigonometry	Stenography	Arithmetic	English
2	Bookkeeping	Algebra	Chemistry	Domestic Science	Spanish	Stenography
3	Geometry	Botany	Physics	Grammar	Stenography	Grammar
4	Arithmetic	English	English	English	Trigonometry	Spanish
5	Mechanical Drawing	Domestic Science	Bookkeeping	Arithmetic	Geometry	Geography
6	Physics	Arithmetic	Grammar	Bookkeeping	Bookkeeping	Domestic Science
7	Civics	Bookkeeping	Arithmetic	Typewriting	Grammar	French
8	English	Typewriting	History	Latin	Algebra	Typewriting
9	Typewriting	German	Stenography	Algebra	Typewriting	Art
10	Manual Training	Grammar	Manual Training	Physical Geography	Chemistry	German
11	Botany	Art	Geometry	Geometry	Geography	Arithmetic
12	Chemistry	Latin	Algebra	History	French	Bookkeeping
13	German	Geometry	Economics	German	Penmanship	Algebra
14	History	Physiology	Mechanical Drawing	Physics	Elementary Science	Geometry
15	Physiology	Physical Geography	Physical Geography	Chemistry	Physics	Penmanship
16	Grammar	Chemistry	French	Psychology	German	Latin
17	Zoölogy	Zoölogy	Typewriting		Manual Training	Chemistry
18	Physical Geography	History	Latin		English	History
19	Stenography	Physics	German		History	Physics
20	Art	Civics			Physical Geography	Civics
21	Geography				Latin	Physical Geography
22	Latin					Elementary Science
23						Manual Training

However, there are certain interesting points of resemblance between Table IV and Tables II and III. In general, we may say that the commercial subjects rank high; English and the mathematical subjects occur, in the majority of cases, in the upper half of the table. The languages and history rank comparatively low. In all of the schools bookkeeping is ranked higher by the boys than by the girls. In Decatur and Hackensack, the mathematical subjects are ranked higher by the boys than by the girls. In every case the boys rank physics and chemistry higher than the girls. On the other hand the girls give stenography, typewriting, English, and the languages higher rank than the boys do. Also the girls rank domestic science higher than the boys rank manual training.

In general we may conclude, from the study of Tables II and IV, that the commercial subjects, English, and mathematics are among the subjects ranked relatively high by the pupils. The languages and history are among the subjects ranked relatively low. The subjects in which the boys manifest a greater interest than the girls are bookkeeping, mathematics, chemistry, and physics, while the girls manifest a greater interest in stenography, typewriting, English, and the languages.

In Table V the subjects are ranked on the basis of the per cent of pupils wishing to drop them. The figures indicate the per cents. Thus 1 per cent of the boys and 8 per cent of the girls of Decatur prefer to drop arithmetic. It is interesting to note the fact that so large a per cent of the pupils taking certain subjects wish to drop them. For example, 60 per cent of the boys of Decatur wish to drop stenography and 75 per cent wish to drop zoölogy. The reason for this should be a matter of concern to the teachers of the subjects and to the principal.

In all of the schools the per cent of boys wishing to drop manual training is higher than the per cent of girls wishing to drop domestic science. In two of the schools the per cent of the boys who expressed a desire to drop algebra is less than the per cent who wished to drop geometry. In the case of the girls, this order is reversed. The per cent of boys who indicated a desire to drop either algebra or geometry is less than the corresponding per cent of girls, except in the case of algebra in Decatur.

TABLE V

Rank of Subjects Based on Per Cent of Pupils Wishing to Drop Them

Rank	DECATUR		DUBUQUE		HACKENSACK	
	Boys	Girls	Boys	Girls	Boys	Girls
1	Botany, 0	Botany, 0	Arithmetic, 0	Arithmetic, 0	Grammar, 0	Grammar, 0
2	Chemistry, 0	Chemistry, 0	Grammar, 0	Grammar, 0	Spanish, 0	Geography, 0
3	Physiology, 0	Physiology, 0	Typewriting, 0	Psychology, 0	Geometry, 2	Penmanship, 0
4	Grammar, 0	Grammar, 0	English, 2	Stenography, 0	Stenography, 3	Civics, 1
5	Geography, 0	English, 4	Bookkeeping, 4	Typewriting, 0	Arithmetic, 4	English, 2
6	Arithmetic, 1	Algebra, 6	Physics, 5	English, 4	Geography, 4.1	Stenography, 2.4
7	Bookkeeping, 4	Arithmetic, 8	Algebra, 9	Domestic Science, 9	Phys. Geography, 6.9	Typewriting, 5
8	Algebra, 6	Domestic Science, 8.2	Mechanical Drawing, 10	Bookkeeping, 19	Trigonometry, 7.3	French, 7
9	Civics, 7	Typewriting, 10	Stenography, 10	Geometry, 22	Bookkeeping, 8	Arithmetic, 11
10	Mechanical Drawing, 8	Stenography, 11	Manual Training, 13	Latin, 23	English, 9	German, 13
11	English, 9	Phys. Geography, 12	Chemistry, 13.6	German, 24	Typewriting, 9.3	Domestic Science, 15
12	Physics, 10	Latin, 14	Geometry, 13.7	Algebra, 29	Algebra, 9.5	Art, 16.8
13	Phys. Geography, 14	German, 16	Economics, 18	Phys. Geography, 31	Chemistry, 10	Bookkeeping, 17.3
14	Art, 14	Art, 17	Trigonometry, 19	Physics, 32	Penmanship, 10	Geometry, 18
15	Typewriting, 15	Bookkeeping, 18	Phys. Geography, 22	History, 40	Elementary Science, 17	Spanish, 20
16	Manual Training, 18	Civics, 18	History, 27	Chemistry, 67	Manual Training, 18.8	Algebra, 20.4
17	Geometry, 22	History, 35	German, 30		Physics, 19.2	History, 27
18	Latin, 25	Geometry, 41	Latin, 35		German, 24	Latin, 28
19	History, 28	Zoölogy, 42	French, 42		French, 24.3	Chemistry, 36
20	German, 28.3	Physics, 46			Latin, 32	Physics, 40
21	Stenography, 60				History, 34	Manual Training, 46
22	Zoölogy, 75					Elementary Science, 56
						Phys. Geography, 86

A comparison of the sequence of subjects in Tables II and V gives evidence that the subjects which the pupils wish to drop are not always the ones which they rank low in preference. This is strikingly illustrated in the case of the boys of Decatur. The reasons assigned by the pupils for wishing to drop a subject furnish an explanation. Many pupils prefer to drop the subject which they regard as very difficult, or which requires an excessive amount of time, or which does not appeal to them as practical, even though they do not dislike the subject.

A comparison of Table IV with Table V shows that certain subjects rank low in both tables. This is especially true of history and Latin and, in most cases, of the modern languages. Pupils may rank a subject as last choice and yet, because they realize its importance, they may not prefer to drop it.

Many other interesting comparisons of these tables may be made. The reader will probably prefer to trace through the various tables the subjects in which he is especially interested.

In answer to the question—What subjects should be added to the course of study in your school?—most of the pupils replied that they were satisfied with the present course of study.

The subjects which the greatest number of pupils in each of the schools wished introduced are at present in the curriculum of one or both of the other schools. For example, many of the pupils of Decatur wish French, agriculture, Spanish, spelling, and penmanship introduced. The curriculum of Dubuque includes French and agriculture, and that of Hackensack includes French, Spanish, spelling, and penmanship. The pupils of Dubuque wish art, Spanish, spelling, and penmanship. Both Decatur and Hackensack offer courses in art, and Hackensack offers courses in the other subjects. The pupils of Hackensack wish an extensive course in cooking. Such a course is now offered at Decatur and Dubuque.

Several subjects not offered in any of the schools were named as desirable by a number of pupils. These subjects in order are: dramatic reading, engineering, astronomy, pottery, Greek, designing and drafting, modern dancing, bible study, pedagogy, nursing, Italian, cooking for boys, forestry, sex hygiene, and interior decorating. Approximately the same per cent of boys and of girls suggested additions to the course of study. In all of the schools approximately the same per cent of pupils of each class suggested additions.

Various reasons were assigned by those who suggested additions. Utility in business and professional life, and general social utility were the reasons most frequently assigned. The cultural value was frequently stated as a reason for desiring art.

One of the current tendencies in the schools is the modification of the course of study in order that it may more nearly satisfy present-day needs. In the past the attempt was usually made to adjust the pupil to the course of study. Today we are attempting to adjust the course of study to the pupil. Any such adjustment should presuppose a definite knowledge of the preferences of the pupil and of the reasons for those preferences. It is not to be inferred that the pupil is to be the arbiter in the readjustment of the course of study, but it is certain that his interest and his preferences should be known. The studies that have been reported by the writers in this journal and in the November number of the Teachers College Record are an attempt to determine certain attitudes of the pupil towards the course of study. The information secured is of special value to the supervisors and teachers of the schools supplying the data, but many of the conclusions are doubtless of general significance.

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* The writers wish to acknowledge their indebtedness to Dr. Edward L. Thorndike, Dr. Henry A. Ruger, and Dr. George D. Strayer, Teachers College, Columbia University; and to Dr. Lotus D. Coffman, University of Minnesota; for reading parts of the manuscript and for making valuable suggestions. The writers wish also to acknowledge their indebtedness to the teachers and supervisors who assisted in securing the data on which the studies are based.

DISCUSSIONS AND COMMUNICATIONS

SOME FACTORS AFFECTING CONTENT OF CURRICULA

Garry C. Myers
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IN an attempt to make the public schools better fit the child for life there has been considerable criticism of the high school's tendency to shape its curriculum to meet the requirements for college entrance. It has been pointed out that but a very small percentage of those who graduate from the high schools ever go to college and that all the rest must study many things which have little or no bearing on the places they are to take in real life. There is now a slow but manifest attempt by the college to meet the high school "half way" and by the high school more or less to ignore the college standards or to offer optional courses providing those things contributory to the more immediate life-activities.

Granted for argument that the curricula, in terms of the general subjects to be taught, are practically ideal, as measured by the present needs; even then, and surely now, the actual course of study in terms of real content may be quite archaic and inapplicable to real life.

However, in the literature on curricula the impression generally is given that the content of a course of study is rather definitely fixed by a resolution of a school board or by a dictum of an administrator. But no statute nor decree determines wholly what the child shall study. Other rather subtle factors, themselves statutory or administrative creations, are the ultimate determinants of the content of curricula. Among these are the teacher, the examination, and the textbook.

The teacher, though oftentimes a mere tool of the administrator, very largely helps immediately to determine the relative importance of each aspect of the several subjects which the child pursues. The child naturally is suggestible and he responds to the suggestions of the teacher—to her questions, gestures, and remarks. Furthermore, the child, eager to show off well before his classmates, and most of all solicitous of sufficient approbation of the teacher to assure a safe promotion, attends most earnestly to those things the teacher most emphasizes. What the teacher emphasizes is more or less directly traceable to the whole system of examinations. By the examination the teacher was made eligible for her position. Thereby she received a license permitting her to teach children who in turn would have to face some kind of a similar examination. Every child is more or less eager to pass the examination with as high a grade as possible. The teacher feels obliged to do her utmost to this end. She naturally has an interest in her students' aspirations and this interest has selfish promptings. She comes to feel that her reputation with the principal, the students, and the school neighborhood rests somewhat on the success of her pupils in meeting these examinations. In a relative degree the reputation of the principal or supervisor is at stake, and, consequently, he urges upon the teacher the importance that high averages are attained by the pupils of his school. The public press takes up the records, discusses them, magnifies the relative attainments of the several schools, and applauds the school and principal that have the highest records.

On this basis the masses come to grade the merits of the school. In turn the school more or less responsive to the public will, seeks in a measure to win the "mob's" approval. But the same social sentiment that applauds immediate signs of school efficiency may denounce this same school as a failure in final social service. This on the surface seems self-contradictory, but in reality it is not, for, while public sentiment readily measures efficiency in terms of life, it does not always put its finger on the factors that are responsible for the efficiency. The masses think in terms of "here and now." They measure values by present and visible standards and so, when they measure a school in terms of its immediate product as registered in the number of those who have passed the examination, they assume that these results are directly commensurate with life's efficiency.

All this means that the teacher, indirectly or directly urged, tends to emphasize in the several subjects taught those things which a careful observation has taught her to consider good in preparation for the examination, regardless often of her own convictions to the contrary. Furthermore, there comes a tremendous demand from the student thus preparing, to be taught those things that will assure promotion, a regent's certificate, or a teacher's license. To be sure the pupil attends most fervently to that which he most highly values as a means to the possession of these treasures.

Moreover, it must be admitted that the average teacher is powerfully enticed to emphasize those things most which the child attends to most, and, in turn, the student generally attends most (especially in the High School and upwards) to that which will fit for the examination. Almost any student, with so vital a demand upon him as that of the examiners, local, city, or state, no matter how disinterested in the most useful things presented in the class, will be aroused to the deepest interest if the teacher pauses to say, "This may be asked in the examination."

It is the business of the school to look ahead and shape present values so as to make them good investments for future returns; the school should fix values for the masses and give future values present settings so as to be within the public's grasp. Analogous to the office of the good salesman, who does not worry so much about supplying wants as he does about creating new wants, the one great office of the teacher is to create in the child real wants for a mastery of that which will fit the child for future living. But with the pressure from so many sides upon the teacher, merely to supply the learner's wants, which have been created chiefly by the examining board, what incentive, what chance, is there for the teacher to inspire and to create the proper wants in the learner? Rather the teacher becomes the "clerk" whose duty it is more or less mechanically to deal out the "goods" to those whose wants have been created by an artificial mechanism styled the board of examiners or the examiner. Inevitably then this mechanism is the final arbiter of what is really taught. In any system, therefore, where the product of the school must finally meet the test of an examining board such as the Regents in New York State and similar boards in cities and in other states, this board of examiners is a mighty factor in determining the real content of the course of study.

This curriculum determinant, however, is not equally effective in all fields. Its potency is greatest probably where it determines the eligible lists of teachers. Consequently the content of curricula in the state normal and city training schools are affected wonderfully by the examining board. This is especially true where in one state or one city there are a number of these schools in competition.

These schools often become too much of the nature of coaching centers for examinations. In some large cities the untrained teacher learns to follow a very specific line of study in the several subjects, for this examination. Indeed, a few clever commercial and unprofessional schoolmen here and there are found in these cities running coaching schools and they are doing it with much lucre for themselves and a very decided advantage to the applicant. This means that such coachers have analyzed the degree of probability that this or that will be called for by collecting a large number of examination questions which the oftentimes archaic board has presented for some twenty-five or thirty years. This coaching system is more or less pernicious in the rural districts. Local summer normal schools are still quite numerous. The students consist of old teachers who want to "brush up" to get a better grade of certificate or of prospective teachers who want to master enough facts to get a beginner's license. Almost no attempt is made to teach anything in these schools save that which will most likely be of service in the examination. The average teacher in these schools is a product of this same system versed in the proverbial type of examination that the County Superintendent will most likely give. The low salary and the heavy duties of a County Superintendent do not attract the most progressive schoolmen. Indeed in a great many cases the County Superintendent is one who has made the reputation whereby he won his office in running coaching schools to fit the applicants to meet successfully the examinations of his predecessor. Thus he has perpetuated the old system.

Since the large percentage of the teachers in the country schools are untrained professionally they will emphasize as they teach what the examination dwelt upon and what those who coached them emphasized. Therefore, the things their boys and girls will really study will be determined in a wonderful degree by the examiner. In like manner the board of examiners of a city none the less determine and perpetuate the content of the curriculum.

These facts throw a tremendous burden upon the examination board. In view of this some school systems are beginning to look about and to investigate the status of the examining board. A superficial study testifies that many boards are archaic and composed of men behind the times and out of touch with real live progress. If progress in education is to go on unimpeded this powerful examining board should either be abolished or be made up of those educators who are in the forefront. There is no place where the practical educational expert can be of more service now than on the board of examiners. With all its ills the examination board has already an almost indispensable place in the school system. To be of usefulness, however, rather than to lag ten or twenty years behind it should be the guide and leader in all that is best in education. But whether it meets this requisite or not the examining board will continue to be a large force in determining the content of curricula.

Another factor forceful in determining content of curricula is the textbook. It is surprising that this factor has received so little consideration in philosophy of education, for it must be admitted that the average teacher teaches from the textbook and follows it rather slavishly. The school board and superintendent prescribe generally the curriculum outlined more or less in detail; then into the teacher's hand is put the textbook. This text contains most of the course prescribed and oftentimes much more; but the average teacher follows this text page by page, chapter by chapter, emphasizing the various subjects in accordance with the nature of the text.

The problem involved would not be quite so far reaching if all the texts were selected because of their superior merits. Perhaps most frequently they are not, but rather book companies and other mercenary agencies dictate their choice. Aside from a few of the larger city systems a superficial survey reveals the fact that one or more book companies have the right of way in the supply of textbooks for the average school system. The country school falls easy prey to the exploitation of book companies and especially in the remoter sections where the local boards select the text books. Often book companies use these places as dumping grounds for antiquated texts. Since such a large proportion of the country teachers are untrained, or are very poorly trained, they naturally will teach almost entirely in accordance with the text. Textbook writers, too, have not been wholly free from the monetary motive. Worse still, textbook writers who have consciences are forced by expediency to modify their texts so as to fit the commercial ideals of the publishers. A book company does not accept a book that does not have commercial value and the publishers well know what are the merits of a text from their viewpoint. The purchasing public is conservative; the textbook writer must not break too far with traditions if his book is to sell. Consequently it is not too much to say that book companies, whose motives are predominantly commercial, are among the foremost factors in determining what the child shall really study or how he shall be fitted for his place in life.

Textbooks once adopted are displaced but very slowly. Therefore, since the best textbook writer is urged to lag a little behind the best thought of which he is aware, and since this text very slowly is displaced, one can roughly estimate the check which the average textbook gives to educational progress.

Furthermore, a large number of textbook writers who are disseminating erratic information, but who launched out early have, with the aid of big book companies, so entrenched themselves with the educating public that, in spite of the errors that their books perpetuate, they prevent the adoption of modern texts.

On the other hand a number of specialists in the several fields have written texts which are true to fact, scientific in point of view, and logical, but which very often are not psychological; i. e., they are not teachable since not cast so as to fit gradually into the experience of the learner. This fact is quite evident in the texts of secondary schools. Probably the average high-school text is beyond the reach of the student that uses it. While it fails to couch the facts presented in terms of the learner's experience it also fails to drive home to life's application the facts when once mastered.

But the swing of the pendulum is in the right direction, and what is needed now is that the specialist who writes texts also understands how the average student studies, what difficulties he has in the learning process, and how he best can meet them. While at the present time the textbook problem is a mighty bar to progress in education, with the increase of scholars writing texts and the growing tendency for the superintendent to select the texts, and, best of all, with the increased number of experts chosen to help set standards for the school community, the textbook eventually will perform its proper office in determining the very best for the child to learn.

In the meantime, however, much could be done in getting at facts by way of making surveys of school texts and the manner of their choice.

THE ESSENTIAL FEATURES OF THE CHANUTE JUNIOR-SENIOR HIGH SCHOOL PLAN AND ITS TANGIBLE RESULTS

J. F. Hughes

Superintendent of Schools, Chanute, Kansas

THE Chanute schools, with enrollment of 2300 pupils, are organized on the plan of a six-year grade school, a three-year Senior High School, and a three-year Junior High School. The Senior and Junior High Schools are housed in new school plants occupied at the beginning of the school year 1914-15, when the new plan of schools became operative. The school plants are well equipped for the lines of activity which will be briefly mentioned.

Grouping the seventh, eighth, and ninth grades makes possible an elastic course of study. We propose to cover the essential work of the state course of study for the grades concerned, but by concentration on such essential work we are able to offer German as an elective in the Junior High School. Such pupils who do not desire to take German may take commercial work, consisting at present of bookkeeping, shorthand, and typewriting. All pupils of the seventh grade are required to take Domestic Art and Science or Manual Training for two hours each week. This work may be elected in the eighth and ninth grades, in which case it is taken for five hours a week.

Failure in our high schools occurs by subject. We have adopted the departmental method of instruction, and our periods are one hour in length, with thirty minutes for recitation and thirty minutes for the supervision of study by the teacher in charge of the recitation. Changes of classes occur only at end of each hour. The pupils are in school six hours and twenty minutes, twenty minutes being used for general exercises.

Because of the brief time in which this school has operated it is impossible to give results in a manner entirely satisfactory to the educational scientist, but what will be given here are results which teachers, patrons, and administrators feel are very evident. In the first place, a group spirit has arisen in our Junior High School which was never experienced in the old schools of eight grades. All of the pupils of the town come together here and there is far better social contact with such activities as are suited to the group, social as well as recreational and educational. There are the morning exercises, when all of these pupils assemble for twenty minutes in the auditorium and when brief inspirational addresses are given by those well able to say something worth while, or when entertainment is afforded. This time is used to interest these boys and girls, some of whom would never be in the old type of high school, in the life and interests of the community or in higher ideals for themselves in vocation and character. Every school should have such gymnasiums as are found in each of our high schools, but in no other form of school could athletics contribute so materially to the general life of the group.

The individuality of the boys and girls of the Junior High School is being developed through the slightly prevocational trend given to the course of study offered. I have in mind a student who has always been very poor in his academic work who is doing excellent work in manual training and who is planning definitely to become a manual training teacher. He has done successful work as a substitute for one of our manual training teachers, although he is only in the ninth grade. Better results are being obtained in the German classes of the seventh grade than in the ninth grade, and a number of our girls in these classes signify their intention of becoming German teachers. The typewriting work introduced in the lower grade should result in expert typewriters, and our courses in the Senior High School must develop along lines which will afford opportunity for the largest amount of attention to these special subjects introduced in the Junior High School consistent with that breadth of education which all should have. Perhaps I should put it education which all can get, because some boys and girls are so constituted that they cannot do passing work in some lines while they can do excellent work in other lines, and these boys and girls must be taken care of and are being taken care of in the new type of school. The teaching in the Junior High School is distinctly better because of the fewer preparations and because of the preparation which a number of our teachers were able to make in the fewer subjects at summer school.

Many pupils enter the seventh grade, and in our plan the High School, who would never enter the ninth grade. We are confident that the spirit of the high school is getting a hold on the boys and girls entering which will hold them in school during these grades of such large educational mortality. We do not have a Freshman class anywhere in the usual sense in which Freshman is applied in the first-year class of high school. The Junior High School, because of its administration and because of its homogeneous constitution, does not and never will look down upon the entering class and subject it to various indignities which are amusing but which are very real in the lives of boys and girls. The absence of the Freshman class in the Senior High School has left that group much more homogeneous, and the freedom of restraint evidenced everywhere in the administration of our Senior High School, especially in matters of discipline, would not be possible were there the Freshman class. The student entering the Senior High School hereafter will have had the experience of being a Senior in the Junior High School and of taking his part in the life of the school in such a way as to make it impossible for him to experience those difficulties of adjustment, even in matters of relationships outside of the classroom which are usually met with. The difficulty of adjusting the seventh grade child to the Junior High School does not appear material, and the tendency to drop out is not so marked as it always has been in the ninth grade. With most of our boys and girls the truancy law is operative at this time, it being necessary for all boys and girls in Kansas to attend school during the full school term until they are fourteen years old and for no less than six weeks during their fifteenth year. While force has its place in the education of some boys and girls it is the new spirit and new interest which is apparent.

THE SOLVAY JUNIOR HIGH SCHOOL

Philip W. L. Cox
Superintendent Solvay Public Schools, New York

IN much of the discussion of the Junior High School some of the actual needs of the regular schools which the reorganization ought to meet are neglected.

I submit that these needs require of the Intermediate or Junior High School these provisions:

(1) The work should be adjusted so as to provide for the individual differences of seventh and eighth, or seventh, eighth, and ninth grade pupils, by offering them opportunities for vocational guidance (prevocational training), and by making the transition to the Senior High School as easy and natural as possible. The earlier specialization should result for bright pupils, who do not change courses, in a saving of a year of school, if the pupils so wish.

(2) The reorganization should be such that there would be differentiated opportunities, not only for pupils who are of normal age for their grades, but also for all other twelve to fifteen years old pupils (not feeble-minded) who speak, read, and write English, in whatever grade they may be found.

(3) Whatever the reorganization, it should be so elastic that pupils who take up one line of work may change to another with minimum loss of time.

Some elements that are often stressed in arguments on the Junior High School are important but not the most important ones.

Departmentalizing the teaching is valuable to just the extent that expert knowledge or special adaptability is requisite in special subjects. Promotion by subject sounds important but in practice, if proper differentiation is made, practically every one (except those who have been absent too much) is promoted in all subjects.

Altering the course of study is important but must be something more than introducing academic work for all pupils in the seventh and eighth grades. It should mean vitalizing and socializing the curriculum, and offering worth-while opportunities to the pupils who do not take to book-work. "Is it not a fair proposition that the school should provide something for the loafer to do?"

According to Douglass's recent monograph on "The Present Status of the Junior High School," only two schools are attempting to deal with the over-age pupils from the lower grades. They are the Wisconsin High School (Madison, Wis.) and the Solvay High School (Solvay, N. Y.). But the very pupils who are in most need of help are these twelve to fifteen years old pupils from the fourth, fifth, and sixth grades. The children who have completed six grades before their thirteenth birthdays cannot leave school before they complete the eighth grade (assuming normal progress). We should by all means adjust the work of our upper grades to meet their needs, and make the transition to the high school as easy as possible.

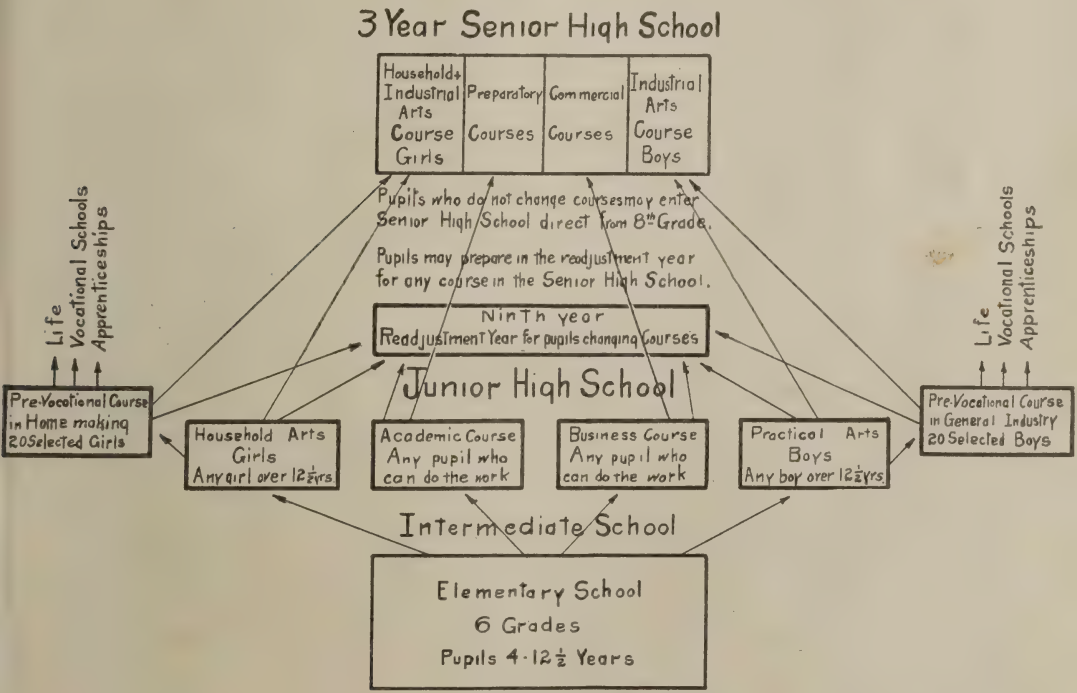
But the pupils who would not have completed the sixth grades before they were fourteen would need special help before the end of the compulsory attendance period, for in most states they can leave school when they are fourteen and will never get any life training unless the new organization takes care of them.

The Junior High School is new, and therefore plastic; it has no traditions to hamper it as yet. It is imperative that some provision be made for the twelve years old pupils who have not completed the six grades grind, before it "gets set."

Solvay is a manufacturing village of somewhat less than 7000 inhabitants. It contains a very large foreign population, chiefly Italians, Poles, and Austrians, who work as unskilled laborers.

The recency of arrival in this country of many school children, the maladjustment to their needs of the school system, the difficulties in enforcing regular school attendance, resulted in a retardation of over sixty per cent. and a serious congestion of over-age pupils in the second and third grades.

The Solvay Intermediate School was organized in September, 1913, on a basis of differentiation by election of subjects, promotion by subjects, and departmental teaching. All the pupils of a subgrade sat in the same room and had much of their work in common. This was found unsatisfactory for two reasons—the daily program was difficult to manipulate, and the pupils varied greatly in interest and ability in their common subjects. So the school was reorganized in September, 1914, and has been successful to a remarkable degree.


3 Year Senior High School
Household + Industrial Arts Course Girls
Preparatory Courses
Commercial Courses
Industrial Arts Course Boys
Pupils who do not change courses may enter Senior High School direct from 8th Grade.
Pupils may prepare in the readjustment year for any course in the Senior High School.
Ninth year
Readjustment Year for pupils changing Courses
Junior High School
Life
Vocational Schools
Apprenticeships
Pre-Vocational Course in Home making 20 Selected Girls
Household Arts Girls Any girl over 12½ yrs.
Academic Course Any pupil who can do the work
Business Course Any pupil who can do the work
Practical Arts Boys Any boy over 12½ yrs.
Pre-Vocational Course in General Industry 20 Selected Boys
Life
Vocational Schools
Apprenticeships
Intermediate School
Elementary School
6 Grades
Pupils 4-12½ Years

The Junior High School includes the Intermediate School and the readjustment year or 9th grade. Pupils who remain in the same courses may skip the readjustment year entirely. The school provides for the individual differences of all normal pupils above the age of twelve and one-half years.

The pupils are now grouped by interests, not by grades. In one room are found the academic pupils, in another the business pupils, in a third the practical arts boys, in a fourth the household arts girls, and in a fifth the vocational boys and girls.

The pupils of all courses do similar work in formal English, drill arithmetic, geography, history, literature, music, gymnasium, and games. There is much adaptation, of course, even in these common subjects.

The Academic Course gives German, cultural arithmetic, applied algebra, concrete geometry, biology, and some practical arts to its pupils.

The Business Course gives commercial arithmetic, bookkeeping, typewriting, penmanship, pencilmanship, general science to its pupils.

The Practical Arts Course gives its pupils approximately one-third of the time for shopwork and shop-drawing. Shop mathematics underlies the arithmetic work in these classes. Correlated general science is given.

The Household Arts Course gives one-third of the time of its pupils for cooking, sewing, design, and household management. The arithmetic is based on household accounts. A specialized general science is taught.

The Vocational Course in General Industry for boys takes the twenty ablest boys from the Practical Arts Course. Here they have a broad prevocational shop experience which becomes largely vocational in character during the second year. Similarly the Vocational Course in Homemaking for girls takes the twenty ablest girls in the Household Arts Course and gives them prevocational and vocational training in dressmaking, cooking, millinery, machine-operating, and homemaking. The vocational courses have a session of six hours a day; the other courses have session of five and a half hours a day.

Pupils who complete the seventh and eighth grades of any course and who continue into High School in the same course skip the Freshman "readjustment" year entirely and enter the Sophomore class. If they do change from course to course, they must pass through the readjustment class to make up the work of the Intermediate School.

THE N. E. A. RESOLUTIONS

Jesse H. Newlon
Decatur, Illinois

THE resolutions adopted at the recent meeting of the National Education Association at Oakland were uncommonly good. These resolutions were superior both in the discretion with which topics for discussion were chosen and in the vigor and thoroughness of treatment. It was altogether fitting that, on this occasion, the abolition of war should receive the place of first importance.

The peace resolution is unusually strong and with the most of it I am in hearty accord. The very vigor of the resolution, however, only makes the more dangerous two or three fatal errors in it against which I wish, briefly, as an obscure member of this Association, to voice my humble protest.

It is stated that there has been a virtual break-down of civilization in the warring nations of Europe. Is it the deliberate judgment of this great National Education Association that all these nations should, without discrimination, be included in this indictment? Was it a break-down of civilization in Belgium that plunged that little nation into her misery? Was it a break-down of democracy in England, or in France, that caused this war?

The President is praised for his "eminent services to the cause of peace, which is the cause of law." Is the cause of peace always the cause of law? Are we to conclude that the President would have deserted the cause of law for the cause of lawlessness if he had found it necessary to resist, even to war, the German submarine policy? Remember that the President was ready "to omit no word nor act" *in the cause of law.* What kind of a political philosophy is it in which law and peace are synonymous? Surely this was not the political philosophy of all the martyrs to the cause of freedom who have, in the past, dared to oppose oppression and tyranny.

I will yield to no one in my devotion to peace, and to a sane peace propaganda, nor in my horror of war, but I am not ready to subscribe to the doctrine that peace is more to be desired than any other thing in this world.

Democracy is to be preferred to peace. That measure of freedom and democracy which we in America enjoy, and because of which the National Education Association itself exists and could meet at Oakland and deliberate and resolve without let or hindrance, was purchased by the privations and the good red blood of many men and women who in the past have placed principles above peace. If this government had been less democratic, if there had been less freedom of speech, we might long since have been drawn into this war. The probabilities are that world peace will follow world democracy. Without democracy there can be no just and enduring peace. Democracy is worth fighting for.

Let us rest our peace propaganda on the bed rock of righteousness. By all means let us emphasize in our schools the achievements and arts of peace and minimize the glories of war. Let us break down the boundaries of narrow nationalism and substitute a broad internationalism, but let us not forget that this internationalism must be built upon a foundation of democracy which we must be willing to defend against any aggressor.

BOOK REVIEWS

John Dewey and Evelyn Dewey. *Schools of Tomorrow.* New York: E. P. Dutton and Co., 1915. Pp. 316. $1.50.

People everywhere are asking what new Philosophy of Education is developed in John Dewey's latest work, Schools of Tomorrow. Those who are familiar with his earlier educational writings will realize that there is none, that the principles here enunciated are the same principles for which he has always contended. Indeed, much of the educational theory can be traced back to Rousseau, whom the author quotes freely. The book is another contribution to the cause of natural education.

Dewey has been for some time recognized as American's foremost philosopher. There have been few, and are perhaps increasingly fewer, who would attempt to refute the fundamental postulates of Dewey's educational system, but there has been a class of educators who have held that in the present state of our civilization and with our present equipment and teachers a scheme of education such as would conform to Dewey's ideas is rather utopian. Few, perhaps, would question that the method of experimentation and independent work on the part of the pupil, with suggestion and occasional help from the teacher, is better than the old so-called "pouring-in method"; or that work suited to the individual needs of each pupil is better than a uniform and rigid curriculum for all, if only teachers of the right sort were available.

As an answer to all such objections, the present volume presents numerous school systems, representing practically all sections of the country, where Dewey's principles have been put into operation with what degree of success we can ascertain for ourselves.

Professor Dewey or Miss Dewey has visited the schools of Fairhope, Alabama; Columbia, Missouri; Gary, Indiana; Teachers College Kindergarten, New York; The School of Childhood, Pittsburgh; Miss Pratt's Play School, New York; the Chicago schools; the Indianapolis schools; and the schools of Cincinnati. These schools vary widely in method and content, but through them all one sees plainly the aim of connecting the pupil's school work with his already familiar environment, of offering him a chance to do the thing for which he has some natural aptitude and liking, to help him to acquire or preserve a healthy body, even, if necessary, at the expense of a few facts. Whether the pupil is mending his own shoes or cooking meals for his fellow pupils in Public School 26, Indianapolis; or learning arithmetic in connection with his carpentry work in Francis Parker School, Chicago; or helping to build a schoolhouse at Interlaken, Indiana; or working part time in a shop under actual shop conditions at Gary or Cincinnati, he feels that his work is amounting to something in the life around him. The work is no longer simply preparing for an indefinite future. It is actually helping him to perfect his skill in the occupation which he has already chosen, or it is giving him a chance to make an intelligent choice of an occupation, after getting some familiarity with a number of varied lines of work.

The schools here under discussion have been variously charged with promoting a narrow individualism, of making a pupil incapable of adapting himself to ordinary working conditions in later school work or life, and with instituting a process which will inevitably lead to a narrow and specialized trade training, in which the individual will be entirely sacrificed to the interests of organized industries. There are several questions, then, which these schools or their advocates must answer. In the first place, Will a system allowing so much choice to the individual pupil put him at a disadvantage in the later work of the high school and college if he chooses to follow there the prescribed courses?

Professor Merriam, of Columbia, Missouri, among others, has followed up this query insofar as his own elementary pupils are concerned, and has found that even when his pupils later go into the college preparatory courses in the high school they are able to compete to advantage in hard and continuous book work with those pupils who have been taught in the traditional way. It would not appear from this and similar evidence that the principles of Dewey, at work, tend to weaken the moral fiber of the pupil. The schools at Gary or the Chicago technical schools do not substitute entertainment or amusement for effort, but they are based on the faith that most enduring effort is secured where there is personal interest to arouse and sustain it. The work is not made easy, but it is chosen after a consideration of the pupil's natural interests.

Are the principles on which Schools of Tomorrow are based the principles which should support education in a democracy? Will such schools produce that "community of interests," that "sense of social solidarity," that "high plane of collective thinking," which are thought to be essential to a successful democracy? The answer to this can be read with certainty only from the pages of future history which the pupils in these schools today, and the increasing number of such pupils tomorrow, will write. Should the time, which some believe imminent, arrive, when we shall endeavor to fit each individual at childhood into a particular groove, simply to fill the demand in a particular industry or profession, as Germany does at present, the reviewer would prophesy soon and certain failure for the democracy. If such were the logical outcome of Schools of Tomorrow he would be the first to condemn them. But this, he believes, is not the tendency. A broad historical first-hand knowledge of many industries is, in his opinion, as liberally cultural as any kind of facts gleaned from textbooks. Schools of Tomorrow, as the reviewer interprets them, do not mean less culture, but culture gained along with useful information and training. It can hardly be said that one will lose in that broad and desirable "community of interests" by knowing the relations between men as they actually exist today, even if at the expense of a great deal of Greek and Roman history.

An extended discussion of such questions may be thought not quite pertinent in a consideration of the present work. As stated earlier the book is not so much an exposition of educational theory or an argument for a certain type of school as it is an account and interpretation of what certain schools are actually doing. One may agree or disagree with the principles underlying such schools, but all will find the account of their operation interesting.

Joseph Henry Johnston.

University of Illinois.

Albert G. Belding. *Accounts and Accounting Practice.* New York: American Book Company, 1915. Pp. 224. 90c.

This book is a very creditable addition to the few elementary texts on accounting which depart from the old mechanical ideas presented in many bookkeeping texts. The suggestion that red ink be dispensed with in bookkeeping is commendable. The importance of thoroughly understanding business transactions before making attempts to interpret them in books of account is brought out clearly.

The term "loss" as ordinarily used is shown to be a misnomer. Legitimate expenses of operating the business are not losses, but are really the profit-earning agencies of the business. The substitute "revenue" is a good one; but the use of the term "economic accounts" to describe expenses seems to be an abuse of the word. "Economic" might apply to assets as well as to expenses.

The chapters on Construction of Accounts, Interpretation of Accounts, and Classification of Accounts should enable the beginner to form correct ideas as to the interrelation of accounts and the use of debits and credits. The ledger may be used alone if transactions are few. The journal as a book of original entry is employed usually, but is not absolutely necessary. From this the use of other books of original entry are taken up in logical order.

The author seems to depart from this principle when, in saying "a complete record comprehends three things," he names as the second (Page 10) "a record of events during a period of time called the journal." This appears to make the journal the primary book. The ledger is generally considered as the record of events, the journal being subsidiary.

There are a number of illustrative exercises and problems in the book, sufficient to give the student the drills so necessary to enable him to grasp the application of the principles presented.

The book is not encumbered with definitions as are many bookkeeping texts. This is a happy departure; but in place of them one would expect to find more explanations to show why certain statements are true or why an entry is made as illustrated. There is a reason for everything in accounting. An effort should be made in a textbook of this nature to state reasons for the elementary principles at least.

The terms "Trading Account" and "Profit and Loss Account" are not used (Page 84) in accordance with the definition (Page 18). They should be called "Trading Statement" and "Profit and Loss Statement." Accounts are kept in a ledger. Statements are prepared from the ledger accounts, indirectly. In Statements, credits may appear as deductions from debits, or vice versa; but in Accounts deductions are not permissible. As suggested (Page 174) there is an Account Form of Financial Statement; but that does not mean that a Trading Statement prepared according to the Account Form should be called a "Trading Account." If so, then a Trading Statement prepared according to the Report Form (Page 174) should be called a "Trading Report." Many accountants are guilty of using the word "account" too loosely.

The discussion of reserve account is very brief, while depreciation is mentioned (Page 173) without any comment. Even in an elementary text bearing the name "accounting," the principle of depreciation ought to be presented more vividly, as this is one of the essential points to consider in preparing financial statements.

The book should prove a valuable guide to the beginning student in bookkeeping and accounting, as the arrangement of the subject matter is a very logical one.

H. T. Scovill.

Univ. of Illinois.

RECENT LITERATURE ON THE BOY AND GIRL PROBLEM

E. C. Foster. *The Boy and the Church.* Philadelphia: Sunday School Times, 1909. Pp. 190. 75c.

Allan Hoben. *The Minister and the Boy.* Chicago: University of Chicago Press, 1912. Pp. II+177. $1.00.

Margaret Slatterly. *The Girl in Her Teens.* Philadelphia: Sunday School Times, 1910. Pp. II+127. 50c.

Margaret Slatterly. *Just Over the Hills.* Boston: Pilgrim Press, 1911. Pp. V+178. 75c.

Margaret Slatterly. *The Girl and Her Religion.* Boston: Pilgrim Press, 1913. Pp. VI+212. $1.00.

Martha Foote Crow. *The Country Girl.* New York: Frederick Stokes Co., 1915. About 400 pp. $1.50.

Emily Clough Peabody. *Lives Worth Living.* Chicago: University of Chicago Press, 1915. Pp. III+187. $1.00.

Several books have appeared within the past year indicating that there is more than mere poetry in the statement that "the boy is father to the man," carrying with it the thought that the girl is mother to the woman. Pioneer work on the boy problem by Forbush was supplemented a few years ago by Foster, "The Boy and the Church," the title being a misnomer for "The Boy and Society" or "The Church Boy and the Community," since it considers the boy in all of his various relationships to the community. There is a bibliography in the appendix. The book would be considerably improved if there were added a chapter on "The Boy and his Religion," and a chapter on "The Boy and Practical Aids in Choosing a Life Work," to supplement the present chapter on "The Boy and his Vocation." This book still remains the best presentation of the boy problem, although a thoroughly good book on the question has yet to be written.

Hoben in "The Minister and the Boy" furnishes a series of lectures about boys, based on his own personal experience as a worker among boys in Chicago and as pastor. The book aims to "suggest a few practical ways in which church work with boys may be conducted." Johnson in his "Problems of Boyhood," the most recent book on the boy question, furnishes a textbook on ethics for high-school boys which was reviewed in the April number of EDUCATIONAL ADMINISTRATION AND SUPERVISION. Forbush also has a book now in the press on the subject of "The Boy Problem in the Home." Clark and Warnock, "Facts for Freshmen" intended for incoming students at the University of Illinois in its first fifty-one pages contains advice to young men on the choice of a life work, the problem of living and personal habits. The book is very practical and merits a wide circulation, although it is intended for local use.

However, the discussion of the girl problem is much more recent. Margaret Slatterly has given us "The Girl in Her Teens," which is still the best general treatment of the topic, discussing the girl in the light of all her various interests and relationships. "The Girl and Her Religion" is divided into two parts, the first discussing the general problems of girlhood and the second taking up the question of religion as related to girlhood. "Just Over the Hills" is a series of very helpful and interesting essays on ethical principles which makes the book very useful for various classes of high-school girls. For instance such topics are discussed as: Success, Courtesy, Cheerfulness, A Good Time, and Character. All of these books are particularly applicable to girls of high-school age.

And during the past summer two books have appeared. The first is Crow's "The Country Girl," following closely upon the Agricultural Extension Work of the United States Government under the Smith-Lever Bill, in the interests of women on the farm, and is a welcome addition to her biographies of Elizabeth Barrett Browning and Harriet Beecher Stowe. The book recites many interesting biographies of country girls in various parts of the United States and presents the privileges and responsibilities of the country girl in her various activities and needs. The book is much more thorough in its pretensions than any of the other books enumerated and claims to be the first book that has been written in the interests of the country girl. Although cumbrously put together, it is an excellent book for all young women, parents, and teachers, but scarcely serviceable as a class text.

The second book, "Lives Worth Living," by Emily C. Peabody, is a series of ethical and social studies of women, biblical and modern, especially adapted for groups of college girls or Seniors in high school. Because it covers a new field we analyze it more thoroughly. The book aims to meet the problems and conditions of girlhood in the present world. It was first used by the author in her Sunday-school class of young women in the South Congregational Church of Chicago. The book is unique among textbooks in that it presents the problems of girlhood through biographies.

There are six chapters in the book, each of which is divided into two lessons. The first lesson presents some Biblical character and the second gives an application of her ideals to the conditions of modern life. Thus there are in reality twelve chapters to the book, at the end of each of which there is a series of questions and a bibliography. By additional topical study to be arranged by the teacher the course can be extended over a period of twenty-six weeks. The questions at the end of each chapter are intended to encourage the girl to engage in some helpful service each week, applying the principles which are presented to the problems of her daily life, with some concrete investigation each week. There is an appendix to the book containing suggestions on each chapter for teachers.

There is much to be desired in this text for girls' classes. It scarcely meets its pretensions to apply to a girl's practical every-day life, since its circle of interests is limited. It is sketchy in parts and lacks unity. It is wordy and repetitious and some of its applications are strained. The picture of Mrs. Palmer on Page 160 would make an excellent frontispiece. The two biographies of modern women, constituting the last chapter of the book, apparently as a concluding discussion, suggest an improvement in the arrangement of the entire volume into twenty-six chapters or fifty-two lessons, which would greatly assist the teacher of the class by providing an adequate outline without leaving her in perplexity as to the use of some of the topical material enumerated by the author. Lesson One of each chapter might present a Biblical character and Lesson Two a modern counterpart. Much of the repetitious matter of Lesson Two of the present chapter might be combined with Lesson One, put in footnotes as an explanation and points for further discussion in the "teachers' suggestions" in the Appendix, or incorporated in the questions at the end of each chapter.

The best part of the book is Lesson One of each chapter in which the Bible story is retold very interestingly and helpfully. The biographies should imprint more clearly the distinctive trait of each life described, both Biblical and modern counterparts and the application should be concentrated definitely on some such interest of girls, as: (1) her education; (2) reading; (3) vocations; (4) recreation and health; (5) practical problems of domestic life; (6) her religion. Four lessons might be devoted to each distinctive biography, as follows:

1. Sketch of the Bible character.
2. Sketch of the modern counterpart.
3. Collateral reading and topical study.
4. Applications to the problems of the class and community.

However, as in Chapter Four, Lesson Eight, it would improve the book if the Bible passage presented were entirely omitted, since the story is retold anyhow.

To the bibliographies of books might be added effectively some of the great historical novels, such as Harriet Beecher Stowe's "The Minister's Wooing" to Chapter One, Lesson One. We find no mention in any bibliography ot such lives as those of Queen Victoria, Dorothy Dix, Zenobia, and Clara Barton; the autobiographies of Lyman Beecher, the works of Jacob Riis, Fisher's "Life Worth Living," and a recent pamphlet by T. A. Clark, Dean of Men at the University of Illinois, "If I were Adviser of Girls." Possibly also might be added King's "Rational Living" and Payot's "Education of the Will."

There is nothing savoring of sectarianism in the book, which should be welcome in any public school library as well as in classes for young women who read and study it, following the practical suggestions and hints as outlined. The bibliographies of the volume of themselves make the book valuable to all persons interested in girlhood.

For those who are interested in books on eugenics and sex problems within the last year there have appeared several of the best publications on these subjects by the American Medical Society of Chicago, there being two pamphlets for boys, one for those from twelve to fourteen years of age and the other for those from fourteen to eighteen years of age, and two for girls of similar ages. However, it is decidedly questionable whether subjects of this character should be handled by public school teachers, since they belong either to the realm of biological instruction in the high school where the subject will not be given an undue prominence, to the home, or to instruction restricted to classes for teachers and parents. Furthermore, such books as King's "The Laws of Friendship" furnish in a positive way the same results that are obtained by direct instruction in topics of discussion at least questionable in the public schools.

VERGIL V. PHELPS.

University of Illinois.

F. V. Thompson. *Commercial Education in Public Secondary Schools. The School Efficiency Series.* Edited by Paul H. Hanus. Yonkers: World Book Co. $1.25.

Mr. Thompson reprints in this book the report of his survey of commercial education in New York City for the New York City Inquiry, 1911–12, including letters received from New York business men in answer to questions submitted in connection with this survey. He also summarizes the results of three investigations conducted in and around Boston in 1913; viz., (1) The Women's Educational and Industrial Union, Department of Research: "The Public Schools and Women in Office Service," published by the Boston School Committee, 1914. (2) The Boston Chamber of Commerce: "Report on Commercial Education to the Committee on Education (Chamber of Commerce)." (3) Committee of Teachers (Massachusetts State Board of Education): "Records in Business of Graduates of Public Schools," published by Massachusetts State Board of Education, 1914.

The rest of this book comprises a statement of current fundamental problems of commercial education, a critical appraisal of the general high school in its relation to commercial education, and a number of constructive proposals, based on the needs of business, for upbuilding the efficiency of commercial education in secondary schools.

Mr. Thompson thoroughly impresses the need of further investigations on the part of both schoolmen and business men to the end that the present more or less unsympathetic attitudes of these respective interests may be brought into co-operation. Although Mr. Thompson seems to undervalue liberal education as good training for non-clerical business practice, and to neglect the fact that the average business house is equipped to supply intensified practical training for its recruits in the more important positions, yet Mr. Thompson's book is another strong link in a chain of constructive planning which will lead to more effective co-operation of business men and commercial education in secondary public schools.

The author's excellent presentation of the "career motive" should be mentioned, although he fails to note also that often the greatest careers nowadays require a sound basis in liberal education. A career appeal stimulates interest in general as well as in specialized training in the high school.

Some other statements need qualification. Page 6: "The fundamental law operating in industrial society is that efficiency is the result of specialization." There are non-clerical commercial positions and higher executive positions where this is not so true. The various units in business are not as uniform as Mr. Thompson indicates on Page 28. Is it true, again, that "general vocational training aims at nothing that has an objective reality" (Page 89)? Or again, "The period of liberal training is over when he (the student) commits himself to vocational training, or as long as he follows that path . . . ."

On the whole the book presents new and sound ideas.

H. McJohnston.

University of Illinois.

Lida B. Earhart. *Types of Teaching.* New York: Houghton Mifflin Company, 1915. Pp. xvi+277.

The author begins with a discussion of "subject matter" based on Professor Dewey's educational theory. In Chapter II is a very brief statement of the basis upon which education must build followed in Chapter III by a statement of "What School Education Should Accomplish." School education "should remake and extend experience," "should aim toward social content or value of experience," and "should increase the control of the learner over the values which make up experience."

In Chapter IV are named the types of class procedure that form the basis for the next ten chapters, in which practically nothing is added to the able discussions of these types by others.

Chapter XV is a discussion of "Making Lesson Plans." The Appendix of 27 pages contains suggestive lesson plans, all pertaining to elementary school work.

One seeks in vain through the book for its justification stated in the Introduction. The reviewer is not convinced that this "discussion of the theory of proper classroom procedure will be more helpful to the average practitioner than the works hitherto available." The reviewer recognizes "the necessity for incorporating in book form such new facts as have been revealed by the numerous inquiries and experiments of the last few years" and also recognizes the fact that Dr. Earhart's discussion is practically identical with other discussions of types of teaching. Secondary teachers who have read the earlier discussions of types of teaching will recognize little that is novel, unless it be the emphasis on elementary school teaching, since practically all of the illustrative material is taken from elementary school subjects.

Finally, one who is familiar with teachers' texts on types of teaching is not convinced that this volume "offers a combination of scholarship and practicality rarely found in teachers' texts."

W. S. Miller.

University of Illinois.

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EDITORIALS

Two Party Platforms in Education

WE easily recognize the superficial lines of demarcation of political parties. Even our scholar president is suspected of having allowed himself to be carried over into the world of political lingo in his party-glorification speech at Indianapolis. Our attention, however, has of late frequently been called to the imminent stage of evolution of our political parties into divisions distinguishable and characterizable in terms of different basic principles of government —and perhaps of the more subtle but also more determining differences in political temperament. Nothing else probably can so effectively elevate politics and advance us toward democracy.

Have we party platforms in education emerging from the chaotic ferment of many plausible but somehow scarcely profound discussions in our current educational literature? Are there fundamental conceptions of education which now divide the modern molders of educational opinion? Are there inarticulate party platforms to which the one or the other of us are adhering? Are the ranks of teachers able to adhere to a platform of principles, an educational philosophy, and resist the impulse to follow this or that speaker, this or that article, this or that reading circle book? Can they prefer and can they understand the more fundamental questions of educational philosophy, disentangled from the particular personal setting in which some speaker or writer may present or distort them?

There are many evidences that we may soon answer these questions in the affirmative. We are approaching an idealistic interpretation of education.

Shall we, in types of teachers, schools, curriculums, methods, continue to aim at producing *types* of men and women, at advancing commerce and industry, and even in exalting the state and preserving tradition; or shall we shift the emphasis in all respects noted above and recognize that education must first of all find its goal in the perfection of its individual citizens, in the broad personality-culture, self-sufficiency, and independent-mindedness of all? These questions are involved questions. We shall not solve them and should not decide them by following this or that personal leadership nor this or that foreign nation.

Can we in co-operation strive effectively for the latter goal above and at the same time combine with this fundamental philosophy of the dominant aim of education also the elements of a high cosmopolitanism and an ineradicable sense of nationality—a sense of nationality which is not offensively assertive nor too self-conscious?

It has of late, to our consternation, become clear that we are not one nation. Our differences in race, religion, language, traditions of subtle scales of emotional values, attitudes towards democratic government even, and, even more vital, our senses of what should be our common responsibilities—all these differences aggravated by our unregulated and unorganized industries—have created a keen sense among many educational thinkers of the urgent need for some process and agency to genuinely *nationalize* us. Some believe in the ultimate nationalization of our traditional academic common school curriculum, with certain elements and emphases added which would imply service to the state. Others would nationalize a sort of vocationalized school curriculum with its humanizing aim of making labor universally respected and respectable. There are still others who would like for the nation somehow to begin upon a national scale a new form of education—universal military education in such a democratic way that no one class of citizens can ever create an officer caste.

These are but illustrations of many similar made-to-order suggestions which may catch most of us off our guard unless we provide some steering platform of educational principles upon which to organize ourselves. It is safe to say that neither of our opposing party platforms will be unassailable. They will however indicate the broad lines of division as to educational values so that we may in the spirit of Dewey's "experimental" national philosophy cast in our lot with one or the other camp of workers and thinkers, and get the enormous benefit of a high grade sort of professional co-operation.

What appear now as promising and pertinent articles in the opposing party platforms in education we shall enumerate in a later editorial.

C. H. J.

English in a "Democratic" Public High School

In a city of 75,000 people with a high school of over 1000 pupils in what is called generally one of our more progressive states educationally the following condition and practice prevailed for the year 1914–15.

Many students enter this high school from the seventh and eighth year parochial schools. The majority of all are German youth. They are "good" in German but very "poor" in English. German is, in the city and school, a more popular language than English. The high school may be said to be second in the state in manual training equipment, teaching force and appointments. In scientific equipment it ranks "excellent," in household science "excellent." The superintendent of schools is 67 years of age and is averse to the introduction of new methods, new subjects, or new curriculum organizations. The high school principal might, think the teachers, be willing to move things if he had any encouragement and certain "prerogatives" of office such as time from teaching for supervision. He does not have. The "practical" work and the modern languages and the "pre-vocationalized" science work have been noted. It should be added that Latin is "strong" and that the "course of study" (not the differentiated, designed curriculums!) still carries Greek among its announcements.

What of the important humanizing and socializing bases of high school work, English and the social sciences? There are only two teachers of social sciences in this entire high school system with its enrollment of over 1000 of this American city's promising prospective "leading citizens."

What of English? Here is the entire offering.

First semester 9b pupils, divided into sections of 25, are taught by different teachers, each English teacher for each successive half term receiving her new allotment of 25 pupils with no reference to those she has started with—there being no curriculum policy operative which insures for any pupil even one year's continuous work under the same instructor. This "English," such as it is, is required of all. In 9b all have five hours of work, three devoted to *written* composition *only*, and two to "literature," "Idyls of the King" and "Treasure Island," with no supplementations! Nine A pupils have one hour of written composition and two hours of literature, devoted *exclusively* to "Ivanhoe." (We may be sure, as the teachers admit, that "Ivanhoe" is "done for.") Ten B pupils continue one hour of written composition, as above, three themes per month, and two hours to "Merchant of Venice" and "Ancient Mariner" (one at least of the few literary "classics" which we have condemned for us by McConn's investigation of bases for the choice of high-school literature). Ten A pupils continue the written composition and "*do*" "Julius Caesar" and "Vision of Sir Launfal" in the same precise standardized deadening stupid fashion. Eleventh-grade pupils in the one hour written composition repeat practically ninth-year letter-writing practice and have at this stage of their education(?) no literature. Twelfth-grade pupils do two hours of composition exercises and get credit for "studying" Burke's "Conciliation," two plays of Shakespeare, Milton's "Comus," some 19th Century poetry, and in acquiring some familiarity with the "Golden Treasury" (19th Century orientation!).

There is no oral English, no public speaking, and what is worse—no opportunity, even for a teacher so disposed, to venture a hair's breadth from the worn paths of vernacular exploitation established when the good old superintendent was young and the mother tongue itself a "new subject."

May we not hope that some of our surveys will soon portray mercilessly such existing conditions; for they are subtly determining the status and function of the national language and literature in our public high-school curriculums! Perhaps here may be a winding avenue at any rate to the culture of the humanities which is itself the high goal of our nationalizing process.

C. H. J.

VOLUME I DECEMBER, 1915 NUMBER 10

EDUCATIONAL
ADMINISTRATION AND SUPERVISION

Proposed Status of Science Instruction in the Junior-Senior High School Organization

John G. Coulter

Bloomington, Ill.

THE Report of the Committee of Ten (1893) has been called the most significant document in the history of secondary education in the United States. Nothing like it in scope and influence has appeared since. The Commission on the Reorganization of Secondary Education is now at work on a similar report. This adds interest to a comparison of current ideas with those that the Committee of Ten published twenty-three years ago.

One is impressed by the unanimity of opinion indicated in the Report. It is in striking contrast with present disagreements. It will be recalled that the original Committee of Ten, under the chairmanship of President Eliot, appointed nine sub-committees or "conferences," of ten members each. These conferences were organized with respect to the following subjects: 1. Latin; 2. Greek; 3. English; 4. Other Modern Languages; 5. Mathematics; 6. Physics, Astronomy, and Chemistry; 7. Natural History; 8. Social Science; 9. Geography. Beginning December 28, 1892, these conferences met at different places, remained in session three days, and in that time prepared and passed *with practical unanimity* reports on their respective subjects with reference to instruction in elementary and secondary schools. Could anything like this be achieved today?

This paper confines itself to natural science. Note the following from the Report of the Conference on Natural History:

> Courses of study were discussed at length and compared, while methods of instruction received due consideration. After full and harmonious discussion, in whose conclusions there was finally perfect agreement, results were reached as set forth herewith.

The following resolutions are of interest:

> That a minimum of one year's study of natural history (botany and zoölogy) should be required in every course in the high school, and that at least three-fifths of the time should be employed in laboratory work.

To all the conferences the parent committee submitted the same set of questions. One of these was the following:

> Should the subject be treated differently for pupils who are going to college, for those who are going to a scientific school, and for those who, presumably, are going to neither?

To this question the Conference on Natural History made reply as follows:

> Differentiation appears to be unwise and therefore not desirable.

The reply to the same question by the Conference on Physics, Chemistry, and Astronomy was:

> There should be no difference in treatment for those going to college or scientific school, and those going to neither.

The conference on physical science appears to have enjoyed the same harmony of opinion as that of the biological conference. Among its resolutions unanimously passed the following are of present interest:

> That physics and chemistry should be taught by a combination of laboratory work, text-book, and thorough didactic instruction carried on conjointly.
>
> That it should not be the aim of the student to make a so-called rediscovery of the laws of these sciences.
>
> That it is better to study one subject as well as possible during the whole year than to study two or more superficially during the same time.
>
> To give good instruction in the sciences requires more work of the teacher than to give good instruction in mathematics, the languages, etc. The sooner this fact is recognized by those who have the management of schools, the better.

In the report of the Conference on geography we note the following:

> Some of its phases may be best disconnected from the formal study of geography and taken up in connection with the subjects to which they are most intimately related. Thus, the distribution of plants and animals will only have its fullest meaning when studied in connection with the nature of the plants and animals themselves; that is, as a phase of botany or zoölogy.

At a joint session of the three conferences on natural science subjects, the following resolution was adopted:

> Resolved, That it is the sense of the Joint Conference that at least one-fourth of the time of the high school course should be devoted to nature studies, and that this amount of preparation should be required for entrance to college.

I have not been able to find in the 250 pages of the Report an attempt to formulate principles of science teaching as a whole. The organization of the conferences seemed to interfere with such a formulation. Natural science was parcelled out to three conferences, whose only joint action recorded in the Report was the resolution cited above (p. 141). Similarly today, when the need of synthesis of science materials for elementary teaching is much more clearly recognized than it was twenty-three years ago, we find science in the Commission on Reorganization parcelled out among five subcommittees, each working on its own report. Also there is a committee on agriculture as apart from science. A unified report for science, as for English or mathematics, would surely be desirable, but none has been made as yet or appears to be in process of making.

Though the Report of the Committee of Ten lacks any definite formulation of principles as to science teaching, the unanimity of ideas that it expresses on this subject comes to almost the same thing. Apparently there was such agreement as to ends in view that no need was felt of their formulation. Science teachers then were of one mind. There was simplicity and directness as well as unanimity in their attack of the problem. There was no uncertainty, no vagueness. And so, whatever weaknesses may have developed, we must be conscious and even covetous of the strength of their plans. It is such strength as lies always in simplicity and definiteness. The pages of that Report, already a little yellow with age, exhale a sort of fragrance of certitude and clarity, a fragrance most agreeable after the odor of incertitude and the smell of mental fog that arises from many a present day conference on the same subjects.

The principal reason for this unanimity and definiteness should be understood. At that time the teachers of science were united by the effort to introduce the laboratory method of teaching science, that is, the method of personal experience. In fact an adequate representation of science in secondary education was still under discussion. Upon such questions the teachers of science were of course practically unanimous. They could well leave the development of details to the future; at the moment they cared only for the general principle.

Why then, out of such clearness, has confusion arisen? It has arisen because their clear plans largely failed to work, and it continues because we have not yet agreed upon what to substitute for them. Our problem is more complex than theirs by quite as much as the modern high school is more complex than theirs were. (In that day, if one may judge by the Report, *the idea that preparation for college is the best preparation for life with or without college* appears to have been accepted by everybody. Nowadays it appears to be accepted by nobody.) This principle was one firm prop on which the reports as to science rested. As it weakened, they began to tumble. Today they are a sort of educational ruin, yet a ruin whose fine old lines make us blush for the patchwork we have put up in its place.

Another principle, evident though not formulated in the reports, is *the principle of segregation of science materials*. Note the following in the report for natural history:

> "While the choice between botany or zoölogy should be made by the teachers or pupils, the members of the conference, with one or two exceptions (the only point about which there has been any decided difference of opinion shown in their deliberations), believe that botany is better for the high school than zoölogy, because materials for the study of that subject are probably more easily obtained than those for the study of zoölogy; because the study of plants is more attractive for the average pupil; and because in the study of animals many prejudices or aversions have to be overcome.
>
> "The study, to be of much value, *must consist largely of laboratory work*, actual work, by the pupils, with the plants or animals. This cannot be too strongly emphasized." (See p. 139 of Report of Committee of Ten.)

Here is a proposal to exclude from the experience of the great majority of high school students either the study of animals or the study of plants, a proposal foredoomed to failure. In all the Report there is no inkling of effort toward a science program for all students in terms of science as a whole. This principle of segregation as opposed to synthesis of the science materials is another of the props that has been shattered, though far from completely. There is a certain amount of strength in it that seems sure to withstand attacks. It defies complete annihilation.

The departures from the plans of the Report appear to have been chiefly due, then, to the inadequacy of the principles indicated above. Preparation for college was found to be an inadequate determiner of the content of the courses for those who did go to college as well as for those who did not. The first cry was to make the courses more practical, to make their content richer in things of every day experience. New books appeared that sought to satisfy this demand as well as the demands of entrance requirements.

At the same time pressure developed against the lines of limitation *between* the sciences, as well as those within them. Physical geography made further extension of its wide flung lines. General biology broke over the intra-biological boundaries, and now general science is on the stage, a breaker of all boundaries whatsoever. "General" appears to be the catch-word of the day. There is a greed to include the universe, and to cover it in 150 hours.

The confusion that has arisen in connection with general science is largely due to the fact that two, if not three, perfectly distinct things are being called by the same name.

(1) There are those whose plan for general science is a plan primarily for teaching appreciation of science and of scientific method, always in terms of the child. To them, the specific nature of the content is a minor matter, and unity of content is a minor matter. If there be unity, let it be a "unity that appeals to the child" (whatever that means), and if there be content, let it always be content that unfolds with the child's interest. Surely a noble plan, if children and teachers be up to it, and if the imperative needs for knowledge may be satisfied thereby. There is a disposition on the part of devotees of this plan to deny that any need for knowledge is imperative so long as right attitudes and appreciations are engendered. They wear a garment of faith that warms them, however invisible it is to the critics. Yet it surely remains for them to prove that the digestion of high school beginners is ready for the diet they have to offer. Possibly they confuse the youngster's mental palate with his mental gastric juice.

(2) There are those whose plan for general science is a little of everything,—glimpses of this, and glimpses of that. It is the "general" idea that has run away with them entirely. *Of course* we need to give an all-around training in science, but how in the name of pedagogical decency can we undertake to do this thing in a year's work, the *first* year's work, a year of 150 hours! Is science a heap of scraps?

(3) Finally, there are those who would make the required-of-all science a thing which preserves a flavor of the old divisions. They ask for a program of 300 rather than of 150 hours. They say that the words *physical environment, plants, animals, and man* express a genetic organization of the materials that it is desirable

to preserve; an idea expressed, but too rigidly expressed, by the sequence *physiography*, *botany*, *zoölogy*, and *physiology* and *hygiene*. But because the supporters of this idea seek to preserve organization, their right to the title "general science" has been disputed. So, to avoid misunderstandings, they have called their program "elementary science," though the aim of being general with reference to content and appreciation is just as true of their program as of any other. Such a program is described in the Report of the N. E. A. Committee on Biology in *School Science and Mathematics*, January, 1915.

The chief difficulty with such a program as that just indicated is that it asks for two years in which to accomplish what general science essays to accomplish in one. That a briefer course has a tremendous advantage over a longer one in courting administrative favor goes without saying. Besides, general science offers to do the thing not only in one year; it offers to do it with one book. So the longer program carries a handicap from the start. Its hope lies largely in the development of the junior high school, with departmental teaching of science running through grades seven to nine.

With the growth of the 6-3-3 plan, gradual acceptance of something like the following plans seems probable.

1. *As to administration.* Work in natural science to be required in grades eight and nine in the form of a natural continuation and development of the general geography of grade seven. The special science units in grades ten to twelve to be elective, save as they are required in certain courses of study. These upper science units to have an administrative equivalence with similar collegiate courses.

2. *As to content.* The required elementary science of the junior high school to secure by its content a general appreciation of the whole field of natural science, and clear knowledge of its most significant facts. The illustrative material to be preferably of economic importance. There will be some standardization of minimal content.

3. *As to organization.* The content of this course to be organized in terms of procedure from simplicity to complexity, that which precedes contributing to the interpretation of that which follows. Basic study of inorganic phenomena will precede the basic study of organisms, although the relations of all phenomena

to life, especially to human life, will be emphasized throughout. The study of man as basic material will come at the end of the course.

4. *As to method.* No single method of teaching will prevail. The quiz-conference with illustrative material at hand will be the most frequent type of lesson. Didactic method will be largely employed to secure an adequate basis of facts for pupils reasoning. Deductive and inductive exercises will be used as found desirable, which will depend largely on local circumstances.

5. *As to aim.* Save as to content, there will be no peculiar aim apart from the general aims of all school work. No peculiar virtues will be claimed for science instruction and denied of all other types of instruction. Elementary science will simply do its part in the development of intelligent, healthy, truth-loving, and truth-perceiving young people.

A Laboratory Exercise in School Administration

Carter Alexander

George Peabody College for Teachers

THE school administrator is essentially a doer. He probably gets less out of the ordinary courses in education with their lectures, discussions and assigned readings, than does any other type of education student. If his course in school administration is to give him training that will carry over to his later work, he must in this course be set to attacking real problems of school administration. He must be required to solve these problems in much the same way that he will later have to employ when thrown entirely on his own resources. In other words he must do laboratory work in school administration.

The comparative rarity of such a procedure in school administration courses impels the writer to submit this article as a description of a type of such laboratory work, employed by him in his own classes for several years.

The problem of getting the teachers in the Hume Fogg High School at Nashville to grade uniformly, was given as practice work to the class in City School Administration at George Peabody College for Teachers in the winter quarter of 1914-15. They had previously discussed briefly variations in grading and had received a few references to recent treatments of the problem, such as Kelly's *Teachers' Marks*.

They were then sent to investigate conditions and to make a report with comparatively little help from the instructor. They were sent in a group because in attacking such a problem in their own school systems, they would have to work with others. The amount of credit allowed for the course permitted them to take only the first steps in solving the problem. But they did get the facts and showed what ought to be done.

The report of this group* follows just as they made it to the high school principal, with the exception of the editing and minor changes necessary to make it intelligible to outsiders.

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* Messrs. Arthur Ashcraft, W. C. Bell, E. McK. Highsmith, Jos. Roemer, and R. F. Terrell.

STATEMENT OF THE PROBLEM.

The present investigation has centered around three main problems:

(a) To see just how many and how varied standards existed for the assignment of grades in the Hume Fogg High School in the year 1913-14.

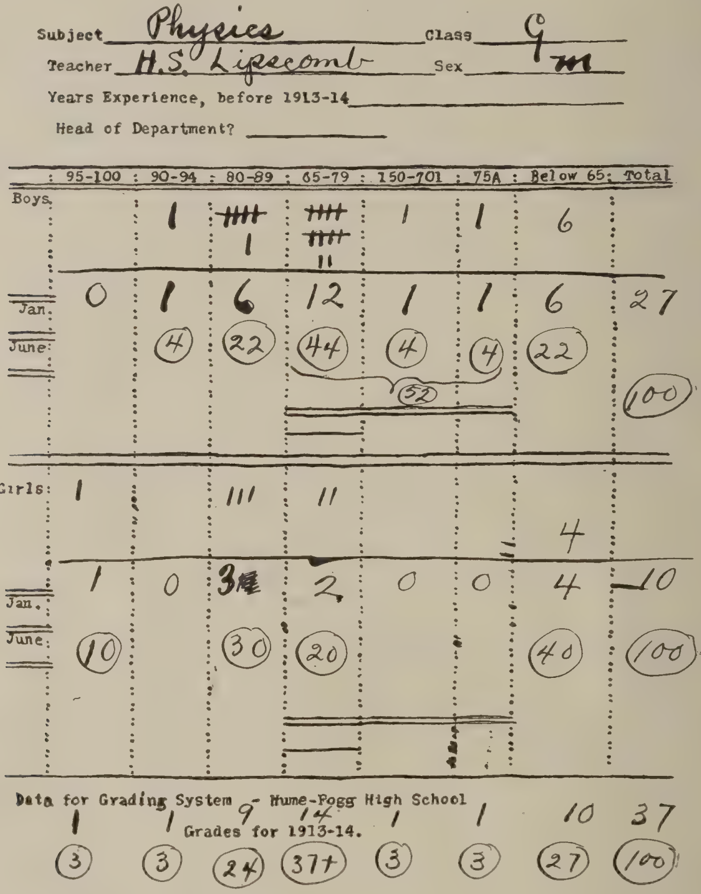
(b) To work out from our data some common standards that we could defend for the school as a whole and present to the teachers for their acceptance.

(c) To evaluate this standard and make practical suggestions for its application by the several teachers and in the several departments of the school.

PROCEDURE.

In making this investigation we first got up a checking sheet for tabulating the necessary statistics. This sheet was made out in this particular form in order to meet the requirement of recording as accurately as possible the facts about the system of grading in use at the Hume Fogg High School with a minimum of clerical work.

Mr. Kirkpatrick, the principal, gave us the use of the grade records of the school for the year 1913-14. We then checked up the grades in each class, using a mimeographed form drawn up by our group after a careful preliminary study of the question. One of these sample blanks (See Plate I) will make clear the nature of the items and the method of scoring. One student read out grades and another checked them on a blank. Then these were totaled in the various groups. Next the percentages in these groups were calculated (the numbers appearing in circles). As is the case in most investigations, the blank in actual use was found imperfect in some details, but the scoring was done on it any way. For example, we thought at first we should keep separate the grades given the first semester from those of the second semester, because students might be conditioned more freely the middle of the year. But in the course of the work, we found that students were graduated freely at the end of either the first or the second semester, and promotions from class to class were made at both times. Consequently we found no need for separating the grades for the two semesters and so did not use the spaces for "Jan." and "June" on the blank.



Subject Physics Class G
Teacher H.S. Lipscomb Sex m
Years Experience, before 1913-14
Head of Department?

	95-100	90-94	80-89	65-79	150-701	75A	Below 65	Total
Boys		1	~~||||~~ 1	~~||||~~ ~~||||~~ 11	1	1	6	
Jan.	0	1	6	12	1	1	6	27
June		④	㉒	㊹	④	④	㉒	
					(52)			(100)
Girls	1		111	11			4	
Jan.	1	0	3	2	0	0	4	10
June	⑩		㉚	⑳			㊵	(100)

Data for Grading System - Hume-Fogg High School
Grades for 1913-14.

1	1	9	14	1	1	10	37
③	③	㉔	(37+)	③	③	㉗	(100)

After the scoring was done, we had at hand:

(a) The number of boys in each class-subject (e. g. Freshman English) receiving a given grade.

(b) The same information regarding the girls.

(c) By addition we could then determine the total number of students in each class-subject receiving a given grade.

The blanks were next arranged:

(a) By teachers
  1. Men
  2. Women
(b) By departments

(c) By classes: freshman, sophomore, etc.
(d) By combining:
  1. Boys' grades.
  2. Girls' grades.
(e) So as to combine all grades given.

Then using the medians* for each array, we found, in terms of percents, just how the grades were distributed in the groups: 95-100, 90-94, 80-89, 65-79, and below 65. For all purposes of final calculation, 65-79 includes two special sub-groups known as 50-70 and 75A. 50-70 means a term estimate of 70 and an examination of 50. 75A means an estimate of 75 for daily work with a legitimate excuse from the examination.

CONCLUSIONS.

1. *The grades given in the Hume Fogg High School do not mean anything like the same thing for the different departments* as is evident from Table I which shows the percentage of grades given in each department in the groups 95-100, etc.

TABLE I. GRADE DISTRIBUTION BY DEPARTMENTS (PERCENTAGES).

Department	*Grading Groups*							
	95–100	90–94	80–89	65–79	50–70	75A	Below 65	Total
English	3	8	21	41	6	3	18	100
Latin	8	9	18	28	11	5	21	100
French	2	7	14	40	20	6	11	100
German	4	3	19	41	12	0	21	100
Greek	0	21	23	27	9	0	20	100
Social Science	1	5	11	45	13	2	23	100
Natural Science	3	5	16	45	9	2	20	100
Mathematics	9	8	21	30	11	3	16	100
Mechanic Arts	0	10	46	38	0	0	7	100
Domestic Science	4	16	47	33	0	0	0	100
Commerce	4	3	20	40	17	4	12	100
Music	4	9	19	61	0	7	0	100
Freehand Drawing.	So few grades recorded that department was not considered in report.							

II. *The grades given in the Hume Fogg High School do not mean anything like the same thing for the various classes in any one department.* Table II shows the variations in the Social Science Department which is typical in this respect.

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* Of course the medians found this way did not total exactly 100% for any group studied. But in no case did they total over 106% and for our own purposes we should have let them stand at this rough approximation to 100%. But for fear this discrepancy might produce an unfavorable effect upon teachers not familiar with statistics, we changed all such totals to their proportionate parts of 100.

TABLE II. VARIATIONS IN THE SOCIAL SCIENCE DEPARTMENT BY SECTION OR CLASSES (PERCENTAGES)

Section	*Grading Groups*						
	95–100	90–94	80–89	65–79	50–70	75A	Below 65
A.	0	7	23	46	12	2	8
B.	3	9	25	46	11	0	2
C.	0	5	7	30	25	2	22
D.	2	4	12	33	18	0	23
E.	0	7	0	35	22	3	35
F.	0	0	12	48	9	7	26
G.	9	4	0	54	12	0	21
H.	3	2	9	32	24	4	25
I.	0	0	18	50	11	3	20
J.	1	1	10	42	13	0	33

III. *Men and women teachers are not grading on the same standards* as is evident from Table III. The most striking feature of this table is that it shows them men fail 3% more students than the women teachers. Comparatively it means 3% more as compared with the 14% failed by the women teachers. That is, the men teachers fail about a fifth more students than do the women teachers.

TABLE III. PERCENTAGES OF GRADES ASSIGNED BY MEN AND WOMEN TEACHERS, ALL GRADES COMBINED

	Grading Groups				
	95–100	90–94	80–89	65–79	Below 65
Men teachers	5	7	21	50	17
Women teachers	7	10	21	48	14
All teachers	6	9	21	48	16

IV. *Throughout the school as a whole boys and girls receive about the same percents of the various group markings* as shown in Table IV

TABLE IV. PERCENTAGES OF THE VARIOUS MARKS RECEIVED BY BOYS AND GIRLS

	Grading Groups				
	95–100	90–94	80–89	65–79	Below 65
Boys	5	7	21	48	19
Girls	6	9	21	50	14
All	6	8	21	49	16

V. *The grades given in the Hume-Fogg High School do not mean anything like the same thing for the different teachers* as is shown in the attached tables. (Here followed in the original report very extensive tables showing the variations of the forty teachers as regards their marking of boys, girls and all students. These tables are not reproduced here for lack of space and because similar ones have been frequently published in the last few years. They merely re-enforce our knowledge of the wide variations to be expected in individual teachers.) These tables show clearly:

(a) That some teachers are more severe in grading boys than girls, and vice versa.

(b) That the teachers vary greatly in the percentage of failures, as well as in every other group.

(c) That while the majority of teachers grade pretty closely around a common standard, some grade too high and others too low for this standard.

RECOMMENDATIONS

I. *The grading in the Hume-Fogg High School should be standardized.*

It is our firm belief that these conditions should be remedied in some way, so as to standardize the grades in the school. Under present conditions a grade of 95 means nothing at all for the simple reason that it has a different meaning for the several departments, and for a large percentage of the several teachers. Also, it is much harder for a boy to make 95 with some teachers than for a girl to make the same grade; with other teachers, the opposite is true. These considerations have added weight when we remember that almost every teacher in the school has classes in at least three years of high school work, and in more than one department.

II. *The present standard might first be utilized.*

Now as a beginning in standardizing this school, we suggest that the average distribution of grades for the entire school be given each teacher as a standard whereby to determine his grade distribution. We have obtained this average in three ways as shown in Tables V, VI, VII and have then combined them in Table VIII.

	Grading Groups				
TABLE V	95–100	90–94	80–89	65–79	Below 65
Classes					
Freshman	5	8	20	47	19
Sophomore	5	7	18	53	17
Junior	5	9	19	49	18
Senior	4	6	16	62	14
All Students	5	8	19	51	17

TABLE VI					
Teachers					
Men	5	7	21	50	17
Women	7	10	21	48	14
All teachers	6	9	21	48	16

Grading Groups—Continued

TABLE VII	95–100	90–94	80–89	65–79	Below 65
Students					
Boys..................	5	7	21	48	19
Girls..................	6	9	21	50	14
All students...........	6	8	21	49	16

TABLE VIII

Based on other tables we have:

Present standard distribution:

6	8	21	49	16

III. *Application of the present standard.*

Upon a study of the grading of the individual teachers, it was found that the following teachers are now grading approximately in accord with the standard of the school as a whole: . . . .

The following teachers with very slight modification of their grade distribution would approximate this same standard: . . . .

The following are grading altogether too strictly according to the practice of the school as a whole: . . . .

The following teachers are grading too high according to the present standard of the school: . . . .

The following tables show the distribution of the grades assigned by each teacher. (These are the deleted tables previously referred to.)

From these it is evident that 50% of the teachers are grading approximately uniformly while the other 50% are on the two extremes. Thus, we see that the standard we suggest is in accord with more of the teachers than any other standard and on account of this we suggest its adoption.

It is not the opinion of the group making the study that the proposed standard is an ideal one. But it is certainly, in our opinion, better than no standard at all. Our objection to its final acceptance lies in the fact that it seems to us too strict. If it is a correct statement of facts in the Hume-Fogg High School, the students there are below normal. Indeed, if the high school work here is not unduly difficult and the present grades are a true measure of the ability of the students, then we should have prima facie evidence that these students are far below the average in intelligence. We do not believe that this is true. And so we believe the teachers in the Hume-Fogg High School should be encouraged to approximate the following standard in assigning grades:

Group	95–100	90–94	80–89	65–79	Below 65
Percent of grades......	3	22	50	22	3

This is an expression of the probability curve for variability in human ability, when measured by five steps or groups.

Accordingly, our recommendation is that with the adoption of the standard already recommended, each teacher be instructed to adhere to it strictly, except in so far as any deviation therefrom is an approach to the above distribution.

We feel that the present extreme variations in the several departments in their distribution of grades, are unjustifiable. The grades properly indicate two things and only two:

(a) The relative standing of the pupils of a class.

(b) The standing of a particular pupil with reference to his accomplishment in the subject, as compared with the accomplishment of thousands of others in this subject, ranked about the same as he is: excellent, medium, or poor.

Then there is no ground for such marked differences in the several departments.

The standards for freshman, sophomore, junior and senior classes are at present practically uniform (see Table V) and this uniformity should be maintained.

At present individual teachers show wide variations in the grades assigned to boys and to girls; some being more strict in grading boys and others in grading girls. But in the entire school boys and girls are about equal in standing except that about a fifth more boys than girls fail to pass. We believe that teachers should grade boys and girls on the same basis.

At present men and women teachers are grading on approximately the same basis of grade distribution. We do not see any reason why we should recommend any different standard for men as compared with women teachers.

Using the standards proposed, some statements regarding departments seem advisable. The departments of English, Latin, German, Social Science, Natural Science and Greek are failing too many students. The departments of French, German, Social Science, Mechanic Arts, Natural Science, Commerce, and Greek are giving too few grades in the first two sections, 95-100 and 90-94. The departments of Domestic Science and Music are grading too high. The department of Music has too few grades 80-89 and too many 65-80.

While the various classes as a whole are being graded uniformly, (See Table V.) there are probably too many failures in the freshman, sophomore and junior classes. Probably not enough seniors are receiving grades 95-100, 90-94, 80-89 and too many are getting 65-79.

It might be a good idea to publish (at least for the teachers) the grade distribution of all the teachers for each semester from now on.

We suggest an investigation of the effect of exempting from examination all students who make a daily grade of 85%, upon the grading distributions. This exemption plan did not apply during the year 1913-14 for which we got the data. It has just gone into operation for 1914-15 and we believe that it will appreciably vary the results in the upper groups, particularly from 85 on. Superintendent Walls of Kent, Ohio, had a similar provision for exempting those with 90 or above several years ago. In his school he found extremely large numbers in the upper groups because teachers were either consciously or unconsciously putting children there to escape the labor of grading examination papers.

We suggest some card system for keeping the records of the teachers, classes and students, with regard to scholarship grades.

Cheating in High School

Anna Eichhorn

Decatur, Illinois, High School*

AS a means of ascertaining some facts in regard to cheating, the following questionnaire was submitted to 1000 students in the high school of Decatur, Illinois:

1. (a) How would you define cheating?
   (b) Would you call the use of ponies and cribbing cheating?
2. Do you approve of cheating?
3. How large a percentage of Decatur High School students cheat, according to your personal observation?
4 Why do they do it?
5. Do you ever cheat?
6. If you do, please state your reason for doing so.
7. If you do not, please state why not.
8. Has the Honor Pledge contributed toward an increase or decrease in the amount of cheating done, or has it had no influence at all? (Last year the Boys' and Girls' Councils introduced the following pledge: "I have neither given nor received aid during this examination.")

Signed
(Student)

9. Why has this been the result?
10. How would you try to eliminate cheating among H. S. students?

In answer to (a) of question No. 1 all kinds of definitions were given, ranging from the humorous type: "Cheating is the ill breadness of a low humane animal" to the straight forward: "Cheating is the taking of advantage, to which a person is not entitled, according to the rules of honesty and of the school." There were two students, who were overnice in their conception, including the waste of time in dreaming and conversation, but, needless to say, their estimates were left out of consideration. The most practical fact, deduced from these 1000 definitions, was that not more than one or two included giving aid. It is this we must bear in mind, when we plan our campaign against this evil.

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* Since this article was written, Miss Eichhorn has become a member of the Kansas City, Kansas, High School.

Thinking the statistics might be more reliable and interesting, I kept separate score cards for the lower classmen (freshmen and sophomores) and for the upper classmen (juniors and seniors).

CHEATING IN THE DECATUR HIGH SCHOOL

	Juniors and Seniors	Freshmen and Sophomores
1b. Would you call the use of ponies cheating?		
Yes	76.4	89.1
No	23.5	10.9
Would you call the use of cribbing cheating?		
Yes	75.1	91.2
No	24.9	8.5
2. Do you approve of cheating?		
Yes	11.2	4.5
No	88.8	96.5
3. How large a percentage of Decatur H. S. students cheat?	37.8	38.9
5. Do you ever cheat?		
Yes	43.4	43.2
No	56.5	56.7
8. Has the Honor Pledge contributed towards		
an increase?	3.5	4.0
a decrease?	66.9	74.3
Has it had no influence at all?	29.4	21.6

In (b) of No. 1, I asked "Would you call the use of 'ponies' and 'cribbing' cheating?" I had not gone very far in the labyrinth of answers before I became aware of the fact that the lower classmen's concept had not progressed much further than the Shetland pony and the corn crib. Consequently the statistics for the freshmen and sophomores are incomplete. The lower classmen who did answer intelligibly, had evidently just received a thorough explanation of the terms from the Session Room teacher and the latter's professional disapproval is clearly stamped on the answers. This is the way I explain the fact that while 89.1% of the lower classes designate ponies as cheating, only 76.4% of the upper classmen do so. Thus a final average of all answers shows that 10.9% of the freshmen and sophomores and 23.5% of the juniors and seniors approve of the use of ponies. Due to the fact that a great many students split tickets on ponies and cribbing, I kept statistics separate, but the final results do not make this distinction very marked. For cribbing, the final averages are as follows: 91.2% of the lower classmen brand this practice, while only 75.1% of the upper classmen do so. This leaves 8.5% of the former and 24.9% of the latter, who consider the use of cribbing perfectly legitimate. (Please recall the fact, that I do not consider the lower percentage of the lower classmen as indicative of a finer moral consciousness). Personally I believe the averages of 23.5% upper classmen approving of ponies and the 24.9% approving of cribbing represent the real situation in Decatur High School. In the last few weeks I have discussed the matter of cribbing in my German classes and many students stated frankly that they had never thought of questioning the the right to crib. Figures then would indicate that 25% of our students make liberal use of ponies or cribbing and approve of their so doing.

The third question was: "How large a percentage of Decatur High School students cheat, according to your personal observation?" I added all the estimates of all underclassmen and divided this sum by the number of estimates and found that the freshmen and sophomores' final average showed that 38.9% of our students cheat, either regularly or spasmodically; while the juniors and seniors' estimates averaged about 1% lower, viz., 37.8%. Then to test the accuracy of these averages, I compared them with the answers to question No. 5: "Do you ever cheat?" and found that the self-confessed cheats in the lower classes averaged 43.2%, in the upper 43.4%, or 4% *higher* than the average of the estimates. I am therefore convinced by this strange similarity of percentages, that fully 40% of our student body cheat. And we are to remember that 24% do not consider the use of ponies or cribbing cheating. As I stated before, I did not count *giving* illegitimate aid cheating, although it should really be considered so.

Next we shall consider question No. 2: "Do you approve of cheating?" Statistics show that 4.5% of the lower classmen and 11.2% of the upper classmen frankly approve of cheating ~~in cheating~~ in some form or another. The difference of 6% between the classes signifies to me, either that the underclassmen are not so nice in their concept of cheating, or else the upper classmen are more revolutionary in their Bill of Rights. I was quite overwhelmed by the idea that 11+% of our upper classmen expressed their approval of cheating.

But there is some consolation in the fact, that while 37.8% confess to cheating, only 11.2% approve of doing so, the rest not only disapprove, but time and again sincerely express their regret, thus: "I am sorry to say, I do cheat." "I hate to confess, I do." "I am ashamed . . . . My conscience always hurts me." etc. Here is the seed of hope, if we'll only plant and nourish it aright.

In question No. 8 I asked: "Has the Honor Pledge contributed towards an increase or decrease in amount of cheating done, or has it had no influence at all?"

and, in No. 9:

"Why has this been the result?"

The results show that 4% of the lower classmen and 3½% of the upper classmen feel that the Pledge has increased the amount of cheating, by making it easier to cheat, in the teacher's absence. Twenty-one and six tenths percent of the lower classmen think it has had no influence at all, while 29.4% of the juniors and seniors are of this opinion. They assign as their reasons:

1. Cheats will lie.
2. Honor Pledge was not given the proper support by teachers and students, consequently was soon disregarded and forgotten.

However, 74.3% of the lower classmen and 66.9% of the upper classmen think the Honor Pledge has been of real practical benefit to the student body. They not only say so, but say so emphatically, giving the following as reasons:

1. It puts cheating in a new light and makes the student realize that it is wrong.
2. Most students not only have a sense of honor, but take pride in testing and asserting it, when given a real opportunity.

Many students in answering No. 5, "Do you cheat?" wrote: "Not since the Honor System."

While compiling these figures, I often felt as far from my operating base as the German submarine. At times even my periscope seemed submerged and I wondered what I'd do with my torpedo, figuratively speaking, after I got it. I hope, I shall not make the mistake of blowing up a light ship.

What can be done to reduce the great amount of cheating, that apparently goes on in this high school? Let us see why the students cheat and by removing these causes, we shall surely eliminate the results, in part, at least.

In question No. 3: "Why do students cheat?" and No. 6, "Why do you cheat?" the following reasons were given continually:

1. Because credits depend on grades and graduation on credits.
2. Because students get nervous in examinations, which are too hard and exacting.
3. Because of inadequate daily preparation, due sometimes to lack of time and, sometimes, inability to understand the teacher's assignment and explanations.
4. To avoid teacher's scolding and the after school conference hour.
5. Aversion to hard work and ease with which I can "get by" with cheating.
6. Because of prevalence of cheating, habit has been developed.
7. Because I am unconscious of the wrong I am doing.

In reply to question No. 7, "If you do not cheat, why do you not?" the following answers were given:

1. Cheating is not right and I value honor above grades.
2. No gain, I get better grades and learn more, if I do my work honestly.
3. It is not necessary, I have brains.
4. Cheating weakens character and I'm afraid of what it may lead to.
5. My conscious hurts me, if I do.
6. Because of my training inside and outside of school.

Out of the seven reasons most frequently given for cheating, four hinge upon the one basic cause, failure to prepare the daily assignment. If we can make the student realize, that he profits most, first, last and always, who masters each daily task, we shall not only have routed cheating out of its trenches, but shall have started a successful campaign for the capture of the fortress of better scholarship. If 40% of our students *cheat*, think how far below par our scholastic attainments fall.

The best plan, in my opinion, would be to allow each teacher a certain number of periods each week for private consultation with students. As matters now stand, we haven't time to give individual help between classes and cannot during our vacant period, because of conflicts with student's program, and few students will voluntarily stay after school. This plan, suggested so often before, would, I believe, have following results:

1. The student would receive the special explanation he needs.
2. He would see the importance of persistent daily preparation and learn how to study.

3. Would discover, that, as one of the students wrote: "Cheating is robbing one's self of an education."

But even if the consultation period seems too near the pedagogue's millennium, I intend to burden myself with the following do's:

1. Do be careful and clear in explanation.
2. Do encourage students to ask questions. Never allow a sincere question to be laughed at.
3. Do give the student credit for conscientious effort and instead of frequently scolding him, use your energy in more efficient pedagogy.

Now as to examinations: The replies to the questionnaire contain the following complaints:

1. Examination questions are too hard, too exacting as to details.
2. Too much stress is placed, by some teachers, on examination grades. Consequently the student gets nervous, forgets facts which he really knew, and in despair *cheats* in order to carry the subject.

To my mind a good examination should test not the student's ability to retain isolated facts, which I, a teacher, deem important, but should give the student an opportunity to use and mold the big lump of material he has been collecting all period or semester. The best history teacher I ever had, never asked us, in examination, for one single date or fact. He would give us three or four big questions, of which we had never heard, and these were to be interpreted and discussed in the light of the whole quarter's work. There was no cramming or cheating, for there was no use. And I never knew of a persistent conscientious student failing, either.

One of Decatur's history teachers gave a question in one of his examinations, that illustrates this point. It consisted of a poem, containing historical allusions, which the class was to explain and interpret. This meant original thinking.

I will illustrate from my own work. Several days before examination I sometimes give each member of a certain class a German newspaper. He is to select and read with care some long article of interest. The day before the examination, all newspapers are returned to me, with the student's name written above the article of his choice. On examination day, each student receives an envelope addressed to himself, a bottle of paste and a blank sheet of paper. On opening the envelope, he finds his article, but it has been cut into tiny pieces. On the board is the examination question:

Humpty Dumpty sass auf der Wall,
Humpty Dumpty ist heruntergefall;
Versuch es mal, wer es kann,
Wiederherzustellen den kleinen Mann.

Examinations such as these make cheating impossible and demonstrate to the student the need of daily preparation throughout the period or semester. He realizes that he must have at his command skill, as well as isolated facts and the former comes with persistent and regular practice only.

Let us now consider the Honor Pledge. Before looking over the questionnaire, I rather scoffed at the honor system. I now see that, if other teachers felt as I did, it is no wonder the Honor Pledge has fallen short of the best results.

Let us go back to statistics. 66.9% of the upper and 74.3% of the lower classmen are confident that the Honor Pledge has contributed toward a decrease in cheating. And I respect these figures because of the marked similarity between estimates of cheats and the percentage of confessed cheats. As I said before, many a student frankly stated, "I have not cheated since the Honor Pledge was adopted." Furthermore the 25%, who feel that the pledge has had no influence, state as their main reason, the complaint that it was not supported strongly enough by the teachers. I, for one, am guilty.

One of the most serious mistakes is the fact, that teachers and students have connected the Honor Pledge with examinations only. It should refer to every bit of work, daily as well as periodical. Many students state that they may cheat in their daily work, but consider it wrong to do so in examinations.

If we are going to accomplish anything in our crusade against cheating, we must in some way, get the student body to include these three facts in its concept of cheating:

1. Cheating is no respecter of time or place.
2. That to cheat is to lose caste in the school.
3. That to give illegitimate help at any time or place is to cheat. Right here is where the pledge can do the most good, namely, in protecting, as one student put it, the "standers" from the "leaners" and "liars."

The following suggestions as to devices for reducing cheating were suggested by a member of the faculty:

1. Urge all student organizations to take a positive stand on the question of cheating.
2. Give the honor movement a prominent place in the High School paper.
3. Make it a question of debate in classes and literary societies.

These suggestions, it seems to me, are all good, sound ones and if carried into effect would bring about splendid results.

I could not refrain from smiling at first at one of the remedies prescribed by a student: He wrote, "To cut down cheating, have an assembly once every week and give talks, not lectures, on the wrong of cheating." But after I had seen several such statements, I realized the student was right, who said: "Boost clean work as much as we now do clean play (i. e. athletics)."

The students have not had their blade of moral consciousness sharpened often enough and consequently they cheat before they realize the wrong they are doing, as so many frankly admitted.

But let us not become pessimistic. In the fact that while both estimates and confessions place the percentage of cheating at about 40%, while only 11% approve of it, is our seed of hope.

The Present Standard of Handwriting in Iowa Normal Training High Schools

E. E. Lewis

State University of Iowa

THIS report describes an investigation of the quality and speed of the handwriting of 1,760 third and fourth year students in 166 Iowa Normal Training High Schools.* The data for the study came into the hands of the writer through the courtesy of two members of the Iowa State Department of Public Instruction, Superintendent A. M. Deyoe, and Inspector Fred L. Mahannah.

At the last high school training examination Feb. 3 and 4, 1915, the directions for the examination in handwriting were as follows:

"The time allotted to the examination in writing is four (4) minutes. During this time the applicant will copy, as a specimen of his penmanship, such a portion of the material given below as is possible in that amount of time. The conductor of the examination will direct applicants when to start and will stop them at the expiration of the four minutes.

"The grade in writing will be based wholly on the penmanship shown in the specimen made in the allotted time.

"It is not supposed that all of the material given can be copied in the four minutes."

Each candidate was given a copy of Lincoln's Gettysburg speech to transcribe. The examination was written with pen and ink on a good quality of ruled paper.

The papers in handwriting submitted by the candidates were judged by six competent judges on the basis of Ayres' "A Scale for Measuring the Quality of Handwriting of School Children."

The judges were in every instance teachers or ex-teachers with considerable experience in judging handwriting by the usual method.

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* For assistance in tabulating portions of these data acknowledgments are due Mr. R. E. Newcomb, a graduate student in education, State University of Iowa.

Thorndike's scale was also considered but the data are not here included.

The reader will remember that Ayres'* scale is a sheet of paper measuring 9 by 36 inches and having eight divisions from end to end. In each division are samples of handwriting. As one proceeds along the strip from left to right these samples are progressively better. They were so chosen that each sample is approximately as much better than the one before as that is better than the preceding. That is to say, all of the steps are about equal. These samples or steps are assigned the values 20, 30, 40, 50, 60, 70, 80, and 90. In order to measure the value of any given sample of writing all that is necessary is to slide it along the scale until a writing of the same quality is found. If this is done first from right to left then from left to right and an average of the two results taken more accurate results are possible.

TABLE I

Showing (a) the Lowest Grade, (b) the Highest Grade, (c) the Average Grade, and (d) the Maximum Variation

No. of Sample	Judges I	II	III	IV	V	VI	Lowest Grade	Highest Grade	Average Grade	Maximum Variation
1	60	70	70	60	60	65	60	70	64	10
101	50	55	50	50	50	50	50	55	51	5
201	60	50	60	50	60	40	40	60	53	20
301	60	50	60	65	55	60	50	65	58	15
401	45	45	50	30	35	45	30	45	42	20
501	80	60	75	65	65	65	60	80	68	20
601	65	65	55	60	60	60	55	65	61	10
701	90	75	80	75	70	75	70	90	77	20
801	60	60	50	50	60	55	50	60	56	10
901	50	55	50	50	50	50	50	55	51	5
1001	65	80	65	65	65	60	60	80	67	20
1101	60	65	55	60	55	55	55	65	58	10
1201	50	50	55	50	55	50	50	55	52	5
1301	60	60	60	55	65	55	55	65	58	10
1401	60	60	55	60	55	50	50	60	56	10
1501	60	65	60	50	60	50	50	65	59	15
1601	55	60	60	50	70	65	50	70	60	20
1701	55	55	65	55	60	65	55	65	59	10

Table No. I contains a fair sample of the judgment given by the six different judges. The 18 samples of handwriting in this table represent a random selection from the entire group of 1,760 paper, every hundredth paper being chosen. Sample No. 1, for example, was graded 60 on the basis of Ayres' scale by judges No. I, IV, V; 70 by judges No. II and III, and 65 by judge No. VI. The highest grade given to the sample was 70, and the lowest 60. The average grade for the six judges was 64. The maximum variation was 10, which represents one step on the scale.

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* Ayres, Leonard P. *A Scale for Measuring the Quality of Handwriting of School Children.* Division of Education, Russell Sage Foundation, N. Y.

If the entire group of 1,760 samples are considered, the results as given in Table No. II are obtained.

TABLE II

THE MAXIMUM VARIATION FOR 1760 SAMPLES

Maximum Variation	Number of Samples
0	26
5	357
10	724
15	485
20	139
25	23
30	8
35	3

Table No. II should be read: of the 1,760 samples judged there were 26 upon which the judges in every instance agreed. There were 357 samples upon which the maximum variation, that is, the difference between the highest and lowest judgment was 5. For 724 samples the variation was 10. The total was from 0 to 35. On only 34 samples was the variation 25 or more. The average and the median variation was 10, or one step on the scale. We may conclude on the basis of this study that *in judging the handwriting of high school students by the Ayres scale the maximum variation between the judgment of six different judges will not be over 10 points, or one step, in about 6 out of 10 cases.*

These findings are somewhat at variance with those of Mr. H. F. Manuel* as published in the January number of the Elementary School Journal. However Mr. Manuel used so few samples that comparisons are almost impossible. His conclusion that "on the average the chances are more than one in two that two graders (or judges) after practice in the use of the scale will assign values to the same papers differing by 10 or more, and more than one in six that the values will differ by 20 or more" are not borne out by this study.

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* Manuel, Mr. H. F. *The Use of an Objective Scale for Grading Handwriting.* Elementary School Journal, Jan., 1915.

By taking the average deviation rather than the maximum deviation a more reliable account of the variability is possible. Table No. III contains the data for this purpose.

TABLE III

Showing Average Deviation from the Average of Each of Six Judges

Variations of 6 Judges

No. of Sample	I	II	III	IV	V	VI
1	—4	+6	+6	—4	—4	+1
51	+8	—2	+2	+3	+3	—7
101	—1	+4	—1	—1	—1	—1
151	+1	+1	—4	—4	+6	+1
201	+7	—3	+7	—3	+7	—13
251	—2	+3	—12	—2	+3	+8
301	+2	—8	+2	+7	—3	+2
351	—2	+3	—2	—7	+3	+3
401	+2	+2	+7	—13	—8	+2
451	+5	+5	+5	—5	+5	—15
501	+12	—8	+7	—3	—3	—3
551	—2	+3	+8	—7	—2	+3
601	+4	+4	—6	—1	—1	—1
651	+4	—1	+4	—6	+4	—6
701	+13	—2	+3	—2	—7	—2
751	—2	—2	+8	+3	—2	—2
801	+4	+4	—6	—6	+4	—1
851	—3	+7	+7	—8	+2	—3
901	—1	+4	—1	—1	—1	—1
951	—1	—1	+4	+4	—6	—1
1001	—2	+13	—2	—2	—2	—7
1051	—2	+3	+8	—7	+3	—2
1101	0	—5	0	+5	0	0
1151	—2	—2	+3	—2	—2	+3
1201	—1	—1	+4	—1	+1	—1
1251	—6	—6	—1	—1	+4	+9
1301	+1	+1	+1	—4	+6	—4
1351	+4	+1	+4	+6	+4	—1
1401	+4	+4	—1	+4	—1	—6
1451	+3	—2	—2	+3	—2	—2
1501	+1	+6	+1	—9	+1	+1
1551	0	+5	0	—5	+5	—5
1601	—5	0	0	—10	+10	+5
1651	+4	—1	—1	+4	—1	—6
1701	—2	—2	+8	—2	+3	—2
1751	—3	+2	+2	—3	+2	+2
A. D.	3.33	3.53	3.92	4.39	3.47	3.66

For Table No. III 36 samples were selected, every fiftieth sample beginning with one. The method of computing the average deviation was as follows:

The six judgments given upon a single sample were averaged. The variation of each judgment from this average was then computed. For example, sample 1 (Table III) was judged 4 points below the average by judges I, IV, and V; 6 points above the average by judges II and III, and 1 point above by judge VI. The sum of the variations, regardless of signs, was then divided by the number of samples, giving the average variation. It will be seen from Table No. III that the *average variation is between 3 or 4 points on Ayres scale.*

Comparison of Grades by (a) Ayres Scale and (b) the Usual Percentile Scale.

Frequently the question is asked: "Are measurements of handwriting made by a scale more accurate than the evaluations made in terms of percentages by teachers." A comparison of this kind was made for 100 samples chosen at random from the 1760. Two sets of judges, consisting of six teachers and ex-teachers, graded the 100 papers. The first set of judges used the percentile method. They had never used a scale and therefore their grades probably fairly represent the usual grades of teachers. It was explained to them that 100% would represent perfect writing and zero would be absolutely illegible. The second set of judges used the Ayres scale. They were the same judges who judged the other 1,660 papers. A comparison of the judgments of these two groups of judges is seen in Table IV. Of the 100 papers every tenth paper has been selected beginning at one.

On the basis of Table IV a gross comparison may be made between the two methods of grading papers. The average variation by the Ayres' scale for the 11 cases is 11.8. By the usual percentile method the average variation is 21.3. *The variation is reduced almost half by using the scale.*

THE STANDARD OF ATTAINMENT IN HANDWRITING.

The latter part of this study deals with the standards of attainment in handwriting in the 166 high schools represented by these 1,760 samples. Do high school students about to graduate write, on the average, better or worse than children in the 8th grade? In order to answer this question the grades given by the six judges to a sample were averaged. The average was then used as a fair measure of the sample. Table No. V shows how these grades were distributed.

TABLE IV

Comparison of Grades by (a) Ayres Scale and (b) by Usual Percentilee Method

Ayres' Scale										Usual Percentile Method									
Judges						Lowest Grade	Highest Grade	Average	Maximum Var.	Judges						Lowest Grade	Highest Grade	Average	Maximum Var.
I	II	III	IV	V	VI					I	II	III	IV	V	VI				
70	75	75	70	80	80	70	80	75	10	87	75	95	75	80	80	75	85	82	20
60	60	65	55	70	60	55	70	62	15	87	65	92	78	85	81	65	92	81	27
50	50	50	45	45	45	44	50	48	5	77	60	75	70	70	63	60	77	71	17
65	65	60	65	65	75	60	75	66	15	90	70	90	79	80	71	70	90	80	20
90	90	90	95	85	85	85	95	89	10	92	90	94	90	90	75	75	94	88	19
60	70	65	60	65	70	60	70	65	10	82	80	82	80	80	70	70	82	79	12
55	70	75	60	70	80	55	80	68	25	85	90	80	78	80	72	72	90	81	18
40	50	45	45	45	45	45	50	45	5	65	75	70	73	60	57	57	75	67	18
80	80	80	80	75	80	75	80	79	5	92	95	92	88	90	70	70	95	88	25
50	50	60	65	65	40	40	65	55	25	72	70	79	70	70	50	50	79	68	29
65	65	65	65	70	65	65	70	66	5	90	85	84	80	82	60	60	90	80	30

TABLE V

Distribution on the Basis of Ayres' Scale of the Grades of 1760 Samples of the Handwriting of 3d and 4th Year Students in 166 Normal Training High Schools in Iowa

Gr.	No. of Samples	Gr.	No. of Samples	Gr.	No. of Samples	Gr.	No. of Samples	Gr.	No. of Samples	Gr.	No. of Samples
30		40	3	50	56	60	79	70	39	80	
1		1	7	1	48	1	72	1	12	1	
2		2	7	2	83	2	123	2	27	2	2
3		3	11	3	64	3	85	3	11	3	3
4	1	4	8	4	55	4	80	4	7	4	4
35		45	13	55	76	65	67	75	10	85	
6		6	17	6	90	6	61	6	4	6	
7	2	7	25	7	114	7	77	7	12	7	
8		8	30	8	81	8	41	8	6	8	
9	3	9	41	9	76	9	21	9	5	9	1
30–39=6		40–49=162		50–59=743		60–69=706		70–79=133		80–89=10	

The median grade is 59.1. The range is from 34 to 89. Fifty per cent of the cases fall between 53.6 and 64.3. If the median attainment of a large group is a fair standard for that group we may conclude from these figures that students in the normal training classes should be required to write a quality the equivalent of about 60 on Ayres' scale. Surely 50 is not too high for a passing grade for 3rd and 4th year students in high schools. Probably 60 is a better minimum standard.

If we compare this standard of attainment with the standards of attainment for 8th grade children proposed by Starch and Freeman, it seems altogether too low.

The average attainment in quality for each grade from the second to the eight inclusive, as measured by both Thorndike's and Ayres' scale is, according to Professor Starch* of the University of Wisconsin, as follows:

TABLE VI

Scale	Grades 2	3	4	5	6	7	8
Thorndike (General Merit)......	7.5	8.2	8.7	9.3	9.8	10.4	10.9
Ayres (Legibility).........	27	33	37	43	47	53	57

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* Starch, Daniel. *The Measurement of Efficiency in Writing.* Journal of Educational Psychology, Feb. 1915.

Professor Starch bases his proposed staandards upon tests performed upon approximately 4,000 pupils. The standard here proposed is the average for the grade. That is, on the average, children in the eight grade write better than sample marked 50 on Ayres' scale, but not quite as well as sample marked 60. The sample on Thorndike's scale for eight grade is marked 10.9. About fifty per cent of the children in the eight grade will write better, and about fifty per cent will write worse than these samples.

Professor Freeman* of the University of Chicago proposes, after careful study, higher standards of attainment for each grade than those set by Starch. He bases his judgment upon results secured from an examination of the handwriting of approximately thirty thousand children. A comparison of Freeman's proposed standard with the standard proposed by Starch is made in Table VII. Both used Ayres' scale.

TABLE VII

	Grade						
	2	3	4	5	6	7	8
Starch	27	33	37	43	47	53	57
Freeman	44	47	50	55	59	64	70

In securing his standards Professor Freeman submitted samples of handwriting of different qualities to 14 mail order and commercial houses in Chicago employing in all over 1700 young men and women as clerks, stenographers and book-keepers. Each employer was asked to state the quality of handwriting he regarded as *essential*, and the quality he regarded as *desirable*. The samples of handwriting which these employers most frequently regarded as essential was that of 60 on the Ayres scale. However, "the qualities of 80 and 90 are most commonly designated as being important enough to enhance materially the chances of candidate." Professor Freeman concludes, therefore, that "the sample of 70 for the eight grade is not high from the point of view of the demands of these kinds of work." Surely high school students in normal training courses should be able to write better than children in the eight grade. A mimimum standard of 70 on

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* Freeman, Frank N. *Handwriting*. Chapter V of the Fourteenth Yearbook of the National Society for the Study of Education.

Ayres scale does not seem too high when we remember that these young persons are taking normal training work in order to prepare for teaching.

The Absence of Correlation Between Speed and Quality.

Do high school students who write rapidly write poorly? Do high school students who write slowly write well? It is possible from our data to contribute something to the settlement of this point.

The reader will remember that the examination in response to which these 1,760 papers were written specifically stated that the time allotted to the examination in writing was four (4) minutes. The applicant was instructed to copy such a portion of the material as was possible in that time. In order to determine the relative effect of speed upon the quality of handwriting two groups of samples were selected and compared. The first group included all the samples of an average grade on Ayres scale of 49 and under. The second group included those with an average grade of 70 and above. The speed of the candidate was measured in terms of the numbers of letters written per minute. For example, candidate No. 320 wrote in four minutes 356 letters, an average of 89 letters per minute.

There were 168 samples in group one. These samples average 361 letters in four (4) minutes, or 90 letters per minute. There were 140 samples in group two. The average number of letters written was 360 in four minutes or 90 per minute. The average for the entire group is approximately the same. If these data are representative there is apparently no correlation between speed and quality. On the average good writers write at the same rate as poor writers and vice versa. If the average attainment is taken for a standard, high school juniors and seniors may justly be required to write quality 60 on Ayres' scale at the minimum rate of 90 letters per minute. While further study is necessary before a perfect standard is attained the writer suggests this standard until a better one is derived.

DISCUSSIONS AND COMMUNICATIONS

ENGLISH IN THE HIGH SCHOOL

J. O. Engleman

Superintendent of Schools, Decatur, Illinois

Editor,
EDUCATIONAL ADMINISTRATION AND SUPERVISION,
Sir:

I have read with interest your editorial concerning English in a Democratic Public High School in the November issue.

Deploring with you the fact that mediaevalism still persists in places, but believing that you have reviewed an exceptional rather than a typical case I submit the following statement of conditions in another school which, may we not hope, is illustrative of a large and growing class of high schools in the Middle West.

In the first place, oral composition has a conspicuous place in the composition work of the school. In self-defence, if for no better reason, the teachers are urged to teach more oral and less written composition than was formerly the practice, but there are better reasons. Pupils themselves lack the time to do all the writing once expected of them unless they neglect other and weightier matters in order to find the time to do it. But more important still, life presents *many* situations requiring ability in oral expression for every situation requiring high grade expression in writing. The pedagogy of common sense, therefore, invites us to stress the phase of training that fits the pupil for the life situations he must most often meet.

Effective speaking for two years, and interpretative reading for two years are both to be found in the English course. The time given to each of these courses is two hours per week. While they are both electives, they are popular courses whose obvious benefits are enjoyed by large numbers of students.

But it is in the course in Literature that this school differs most from the one you have reviewed, as the following outline by semesters will show. Special attention is called to the quality and variety of selections listed for home reading. The numeral following the name of each book so listed indicates the number of points of credit allowed the student for reading the book, such credit to be given after a brief review of the book read is furnished by the student. Ten points must be earned by every student each semester of the course.

First Semester

Poe's Tales
Homer's Iliad, Books I, VI, XXII, XXIV, Bryant's translation
Scott's Lady of the Lake
Home Reading List:

Alcott, Little Women	5	points
Barrie, Peter Pan in Kensington Garden	3	“
Clemens, Tom Sawyer	5	“
Church, The Story of the Iliad	5	“
Franklin, Autobiography	7	“
Guerber, Selected Myths	3 to 5	“
Kingsley, The Water Babies	5	“
Kipling, Captains Courageous	4	“
Montgomery, Anne of Green Gables	4	“
Muir, Stickeen	3	“
Pier, Harding of St. Timothy	3	“
Stevenson, Treasure Island	5	“
Wiggin, Polly Oliver's Problem	3	“
Webster, When Patty Went to College	3	“

Second Semester

Prose Literature—Margaret Ashmun
Ancient Mariner—Coleridge
Julius Caesar—Shakespeare
Home Reading List:

Arabian Nights Entertainment	3 to 5	points
Burnett, The Secret Garden	5	“
Bryant, Homer's Odyssey	7	“
Clemens, Huckleberry Finn	4	“
Gates, The Biography of a Prairie Girl	4	“
Johnson, The Varmint	4	“
Lanier, The Boy's King Arthur	5	“
Ollivant, Bob, Son of Battle	4	“
Plutarch, Lives of Antony, Caesar, Cicero, and Marcus Brutus	6	“
Pyle, Merry Adventure of Robin Hood	5	“
Story of the Nibelungenlied	6	“
Swift, Gulliver's Travels	5	“
Warner, Being a Boy	3	“
Webster, Daddy Long-Legs	3	“

Third Semester

Ivanhoe
Idylls of the King
As You Like It
Home Reading List:

Allen, Flute and Violin	2	points
Brown, Rab and His Friends	3	“
Cooper, The Last of the Mohicans	5	“
Davis, A Friend to Caesar	5	“
Eggleston, The Hoosier Schoolmaster	4	“
Harris, Nights With Uncle Remus	6	“
Kipling, The Jungle Book	3 to 6	“
Little, The Lady of the Decoration	4	“
Page, Marse Chan	2	“
Scott, The Talisman	7	“
Stowe, Uncle Tom's Cabin	7	“
Wister, The Virginian	5	“

Fourth Semester

The Vicar of Wakefield
Silas Marner
The Merchant of Venice
Home Reading List:

Black, Judith Shakespeare	5	points
Clemens, Innocents Abroad	6	“
Craik, John Halifax, Gentleman	5	“
Doyle, The White Company	5	“
Dickens, David Copperfield	7	“
Eliot, The Mill on the Floss	7	“
Keller, Helen, The Story of My Life	5	“
Parkman, The Oregon Trail	5	“
Scott, Quentin Durward	6	“
Stevenson, Kidnapped	4	“
Stevenson, Dr. Jekyll and Mr. Hyde	4	“
Fox, The Little Shepherd of Kingdom Come	4	“
Crockett, The Lilac Sunbonnet	4	“

Fifth Semester

English literature from beginning through Chaucer (Pancoast and Shelley)
English literature from Chaucer through Spenser (Pancoast and Shelley)
English literature from Spenser through Shakespeare (Pancoast and Shelley)
Dickens' A Tale of Two Cities
Home Reading List:

Addams, Twenty Years at Hull House	7 points
Beowulf (Child Translation)	7 "
Blackstone, Lorna Doone	6 "
Howells, The Rise of Silas Lapham	6 "
McClure, My Autobiography	5 "
Parker, The Right of Way	5 "
Mackaye, The Canterbury Pilgrims	5 "
Shakespeare, Henry V	4 "
Tarkington, Monsieur Beaucaire	2 "
Thoreau, Walden	6 "
White, The Blazed Trail	4 "

Sixth Semester

Lyric poetry
English literature from Shakespeare through Milton
English literature from Milton through Johnson
English literature from Johnson through Wordsworth
English literature from Wordsworth to Victorian period
Shakespeare—Macbeth
Home Reading List:

Allen, A Kentucky Cardinal	4 points
Churchill, Richard Carvel	5 "
Eliot, Adam Bede	6 "
Grayson, Adventures in Contentment	5 "
Hawthorne, The House of Seven Gables	6 "
Jackson, Ramona	5 "
Kingsley, Westward Ho!	7 "
Scott, Kenilworth	7 "
Shakespeare, King Lear	5 "
Stevenson, Travels with a Donkey	4 "
Stockton, The Lady or the Tiger	2 "
Van Dyke, The Blue Flower	4 to 6 "
Wallace, Ben Hur	7 "
Wilkins, Pembroke	5 "

Seventh Semester

Conciliation with America
First Bunker Hill Oration
English literature
Poems of Browning:
Home Reading List

Antin, The Promised Land	6 points
Barrie, The Little Minister	5 "
Churchill, The Crisis	5 "
Dickens, Dombey and Son	6 "
Gaskell, Cranford	5 "
Hawthorne, The Marble Faun	6 "
Hayne-Webster, The Great Debate	7 "
Reade, The Cloister and the Hearth	6 "
Shakespeare, Henry VIII	4 "
Burnett, T. Tembarom	5 "
Deland, Dr. Lavender's People	2 "
Davis, R. H., Gallagher and Other Stories	2 "

Eighth Semester

Hamlet
Modern Drama
- Synge, Riders to the Sea, Elkin Mathews
- Synge, The Shadow of the Glen, Elkin Mathews

Other Tentative Texts in Modern Drama
- Galsworthy, Justice, Scribner's Sons
- Peabody, The Piper, Houghton Mifflin Co.
- Jerome, The Passing of the Third Floor Back
- Yeats, Land of Heart's Desire
- MacKaye, One Thousand Years Ago

Home Reading List:

Austen, Pride and Prejudice	7 points
Bulwer, Harold	6 "
Harrison, Queed	5 "
Hawthorne, The Scarlet Letter	6 "
Galsworthy, The Patrician	5 "
Hugo, Les Miserables	10 "
Ibsen, The Doll's House	4 "
Porter, The Scottish Chiefs	6 "
Rostand, Chantecler	6 "
Thackeray, Henry Esmond	7 "
Palmer, Life of Alice Freeman Palmer	6 "
Lady Gregory, Seven Short Plays	6 "
Zangwill, The Melting Pot	4 "
Kennedy, The Servant in the House	4 "

In addition to the foregoing, students are encouraged to read good magazines regularly. An investigation has shown that seven-eighths of them do such reading, the Youth's Companion leading in popularity.

ON SOME FUNCTIONS OF A SCHOOL OF EDUCATION IN RELATION TO THE STATE PUBLIC SCHOOL SYSTEM

Bird T. Baldwin
Swarthmore College

THE professional training of elementary and secondary school teachers has made such rapid progress during the past five years that we are in the presence of the most constructive period in the history of educational experiment and practice. It is unnecessary to longer defend this movement in an apologetical manner, since the general public sees the value of such professional training, the teachers feel the need of it, and the pupils are beginning to show some tangible results. Education at present is an aggressive, developing subject for careful study and research which has come to stay. The immediate important questions are: How may we aid its progress along scholarly, scientific and practical lines? How may we intelligently experiment with the vast resources at our command? The aim before the best Schools of Education today is *preparation through intelligent participation in school work.*

There are at least three ways in which we may effectively extend the work of our Education Departments over the state:

First, much may be effectively accomplished through bulletins and monographs to the people on such topics as School Buildings, School Hygiene, Reference Books, Methods of Teaching Special Subjects, Laboratory Equipment, Measuring Scales, etc. Another means, which was used on a small scale at Texas, is to distribute throughout the state small circulating libraries on the Professional Training of Teachers. Circulating exhibits, similar to the Child Welfare exhibits, may also very profitably supplement this kind of work, which is capable of elaborate expansion and effective application.

Secondly, we may send members of our staff to the people for educational lectures, and for regular college courses. This may be done by selecting two or three centers and by having an instructor in Education give regular courses with college or university credit at each on alternate days. So far, this plan has not been worked out systematically and extensively by any state university department of Education, to my knowledge. A few instructors may be sent out as critic teachers on methods of teaching; others to organize educational conferences; others to train superintendents how to make intelligent reports to their boards, to the community, to the State Department and to the United

States Bureau of Education; and others to act as competent judges for evaluating a school system. We must infuse the spirit of investigation and research into our present superintendents through contagious methods and help the older teachers in the service to regain their mental plasticity.

In the *third place,* the Department of Education can frequently bring the teachers and superintendents to the college or university as an educational center for free and liberal consultations and a place where every man in the state would feel free to come for help in school problems.

It is our function to help to create a sentiment for more high schools, and to organize them and above all to express our confidence in their utility and efficiency, since there is at present a sensational wave of dissatisfaction and destructive criticism passing through the popular journals. The greatest need of the public schools of our Commonwealth today is for more unity of purpose and community of effort among those within the field of work. The State schools have been isolated groups instead of correlated institutions for the public good.

As to the internal and specific functions, the School of Education may be a center that consciously aims to unify and correlate all the educational forces and activities in the college or university bearing directly on the professional training of teachers and superintendents from the kindergarten to the college inclusive. It should above all be the center for the scientific study of educational problems and for productive scholarship. Creative scholarship cannot be divorced from good teaching.

Our most important function is to bring our work into closest contact with the public schools. This may be effectively done through courses in *observation, practice teaching, school surveys,* and *experimental education.*

Practice, or coöperative teaching, for example, always appeals to students. It furnishes teachers who have made a start in teaching and will help to save the high schools from being sacrificed as training and practice schools for inexperienced teachers. It permits us to test our students before sending them out; and it helps to keep the department in touch with all the practical phases and difficulties of the profession by carrying its training to a finish before the students leave the university. It helps to give the student independence, confidence and self-respect, and prevents many humiliating failures by enabling the training teachers to enter their chosen profession with an increased knowledge of the educational significance of their subject and its methods of presentation.

In conclusion, let us make it known that we believe our school systems should be run on the business principles of economy and efficiency, in order that our taxpayers may get the full measure of return for their taxes and their children the best training for adequate living, through an intelligent participation in life's activities.

TEACHING OF THE MANUAL ARTS AND HOME–MAKING SUBJECTS IN 156 CITIES OF THE UNITED STATES*

Joseph C. Park
Oswego (N. Y.) Normal School
and
Charles L. Harlan
West Chester (Pa.) Normal School

A QUESTIONNAIRE study of certain phases of the teaching of the manual arts and home-making subjects in the elementary schools and in the high schools of one hundred fifty-six cities of the United States has recently been completed by J. C. Park and C. L. Harlan of the Oswego, New York, State Normal School. The study is an investigation of the following phases of the subject: The Dominant Aims and the Prevalence of Each in the Teaching of the Manual Arts and Home-making Subjects; Kind and Character of Work Offered; Number of Minutes per Week and Percentage of Total School Time Devoted to These Subjects; Methods Used and Their Adaptation to the Age and Grade of Pupils; and, Methods of Disposing of the Products of the Shops and Kitchens.

Existing conditions and practices, in both elementary and high schools of the cities studied, are reported in the summary of the investigation. The central tendencies, with quartile and extreme variations, are represented in tabular and graphic form, making it possible for any city to compare its practices with practices in general, —if the situation in 156 cities in thirty-nine states may be regarded as general.

The dominant aims in the teaching of these subjects, as avowed by supervisors and superintendents, are classified as,—cultural or disciplinary, vocational, and prevocational. The prevocational aim is claimed to dominate the teaching in one-half of the cities reporting, while the vocational aim ranks lowest, in point of frequency, as a dominant aim.

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*Requested by the Editor.

The kinds of work offered are grouped into nineteen general classes. The number of cities offering each kind and the grade in which it is offered are shown in tabular form. From these figures one is enabled to see what kinds of work are emphasized and in what grades the greatest emphasis is placed on any specific kind of work. A striking fact gleaned from this part of the report is the wide range in the kinds and grade-location of the work offered.

Some interesting facts appear in the tables on Periods per Week, Total Minutes per Week, and Percentage of Total School Time Given to Manual Arts and Home-making Subjects. The central tendencies show the common practice to be that of giving one period per week of 70 to 90 minutes in the grades, and in the high school, five periods per week of about 75 minutes, to these subjects. The time thus given is found to be about five percent of the total school time in the first six grades, about six percent in Grades Seven and Eight, and nearly twenty-five percent in the high school.

The methods employed in presenting the work are designated as that of, Systematic Graded Exercises, Individual Projects Selected by the Pupils, Co-operative Projects Selected by the Group, and Projects Expressive of Some Phase of Work in Arithmetic, History, Literature, or Other Subjects. The one method in greatest favor is that of systematic graded exercises, this method being used alone in seventeen percent of the cities studied. The most frequent combination is that of systematic graded exercises together with individual projects, found in twenty-three percent of the cities. Other combinations of methods appear nearly as frequently, however, showing that there is only slight tendency towards uniformity in the use of any one method or group of methods. The use of some methods is also more frequent in some grades than in others, indicating a tendency to adapt the method of presentation to the age and grade of the pupils.

The data on the disposal of the finished products indicate a strong tendency towards individual work since forty percent of the cities allow pupils to keep the products of their handiwork. The tendency to dispose of such products by sale is so slight as to be almost negligible.

Data on enrollment in manual arts and home-making courses, costs, and amount of correlation with other subjects, have been collected but are so fragmentary and disorganized as to render them unreliable.

The report presents data of much significance to superintendents, supervisors, and teachers of manual arts and home-making subjects. A summary of the findings of the investigation is soon to be issued as a bulletin of the United States Bureau of Education.

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EDITORIALS

Further Queries Regarding Vocational Education

IT is to be regretted that the actual issues involved in current controversies regarding vocational education are not more clearly defined. At the risk of some repetitions of statements already made in this journal, we submit the following questions:

I. Is it not a fact that little or no serious discussion of vocational education, as direct and purposive preparation for a specified calling, now contemplates any claim upon the years required in most States to be given to compulsory school attendance, namely, from 6 to 14 years of age? Is it not fair, therefore, to say that there is no issue as regards vocational education under 14 years of age?

II. Is it not a fact that in Massachusetts, and in nearly all the other States of the Union, a boy or girl who has completed a substantial part of the elementary school curriculum, and is 14 years of age, is now free, so far as law and prevailing public opinion are concerned, to elect any one of the following courses?

(a) He may go to a general high school and thence into college.

(b) He may enter a commercial or other modified department of a high school, but with little or no guarantee, however, of receiving effective vocational preparation therein.

(c) He may enter upon wage-earning employment in juvenile and rankly dead-end industries, and remain there as long as he wishes or as conditions permit.

(d) He may remain at home in more or less irregular employment, profitable or unprofitable, as the case may be.

In view of the foregoing conditions, one group of those discussing vocational education contends (a) that there would be no loss, but rather a distinct gain, in adding to the above opportunities for pupils not legally required to attend school certain forms of very specialized and very effective vocational training, so definitely organized that the learner, on the completion of prescribed courses, could be reasonably sure of obtaining employment in the specific work for which he has been trained; (b) that as a condition of making this education efficient it is desirable, in some cases, to have its administration controlled, or at least shared in, by representatives, in both employed and employing capacity, of the industries for which preparation is being made; (c) that this necessity for having participation of representatives of industries concerned in the administration of vocational education may be expected to diminish in proportion as educators, themselves, become fully cognizant of the needs and possibilities of such education.

Now, what are the issues involved above as to which marked differences of opinion exist? It seems to me that they may be the following:

A. Notwithstanding the fact that at the present time a boy leaving the schools at 14 years of age can go into the narrowest and most uneducative employment, it would be inexpedient and undesirable for the State to offer him an opportunity for a broader and more effective entrance upon industry through the avenue of a specialized vocational school, partly because some boys who might otherwise go to the general high school would be "short-circuited" into the vocational school, and partly because the existence of the vocational school might delay the raising of the age of compulsory school attendance to 16 years, or upwards. Are these really two of the issues involved?

B. The State should, under no circumstances, become party to a program of specific vocational education, because this is so bad, educationally and socially, that it should be put on a par with premature labor of children at monotonous industries. If this is an issue, is there anything in the practices of existing vocational schools to justify regarding it as such?

C. The desirability of specific vocational education may be admitted, but an issue may be raised as to the desirability of keeping it completely detached from existing industrialism, as represented by employers and employees, because of the possibility that employers, especially, will gradually capture the administrative machinery of vocational education and use it as a means of exploiting younger workers, preventing development of unions, etc. Is this an issue?

D. The existing industrial order is so bad that in every possible way our educational system should refuse to co-operate with it, even though such refusal of co-operation may entail great hardship on individual boys and girls who are growing into manhood and womanhood without finding available avenues wherein they may do their shares of the world's work. Is this an issue?

E. Finally, it may be contended that educational administrators are now fully competent to organize and administer vocational education without any form of supervision or co-operation on the part of representatives of industries. Is this an issue?

D. S.

The "School Discipline" Plank in Our "Party Platforms in Education."

WE shall publish in a later issue a composite review of the group of recent books on this subject of school discipline. Studies of factors of successful teaching purport to show failures correlating well with inability of the teacher to "discipline" her pupils, and successes correlating with ability to "maintain discipline." These so-called scientific studies themselves we shall later subject to critical examination. Suffice it to say that their "results" have disclosed to those in charge of reading circle and other book dispensaries for teachers a guiding clue as to the "universally necessary reading matter for teachers." Many cures for this "weak spot" in our schools are being heralded. Whatever there may be or may not be in this "scientific" diagnosis of the ailments of our classroom operators, we have to our hand a handy controversial topic.

The reviewer of one of these books, in this issue, as well as the author of this book, takes a clear and definite stand with reference to the philosophy underlying school discipline. Others as stoutly champion quite another fundamental conception of school discipline and quite other methods of procedure in securing the desirable "orderliness" and individual and class self-control.

For reasons which will become clearer we hope in other issues we shall diagnose some of our critical school issues with reference to characteristic and contrasting educational attitudes as represented by what we shall style our two educational parties. One of these parties we shall call the "Absolutists," the other, the "Experimentallists." Even at the risk of occasional exaggeration we shall report their differing statements regarding the various conflicting planks in the correspondingly organized platforms. Readers may forthwith "join" either party, or preferably postpone their decision until the opposing positions on many more of the vital school issues shall have been formulated. In this latter way a cumulative understanding of the principles involved may be reached.

The first plank may well be that of *School Discipline.*

ABSOLUTISTS.

We believe that systematic submission to outside authority, kind and gentle possibly, but above all firm and judicious, is a fundamental need of childhood and youth, and that pupils should always in school live under such a regime, sense the consequent order in all things, acquire willingness and skill in obedience, and that they should not be subjected to the dangers and the confusion of self-direction. They must lean upon the teacher's will. We believe that the school should not suffer the wastage otherwise due to this inevitable floundering of young pupils incident to all their attempts to acquire a code of self-discipline with self-direction.

The school is primarily a disciplining institution—in morals as in intellect—and not a place for individuals to go through the farce of "practising their individualities." Pupils need rather above everything else to practise unpleasant effort, to cultivate the capacity to endure drudgery,—to become reconciled to "hard, uncoaxed, uncomplimented work." The colt must be "broken," the law of its life is work, labor; so must be the child, the law of its life is work under authority. We believe in Dr. Emerson E. White's Seven School Virtues, and that the school's procedure is to "overlay" with these the primitive and non-educable impulses and activities of children.

EXPERIMENTALLISTS.

We believe that the characteristic, direct and more or less literal school emphasis upon repressive discipline, external direction of will, and submissive obedience to "teacher's orders" or to traditional conceptions of an education superimposed upon children's natures should be largely but gradually replaced by a different sort of emphasis. This new emphasis should be upon the constructive rather than upon the destructive policy of making educational use of all school exercises of classroom and of playground—every incident of school life—that they may present a "working contact" with the average affairs of every day life. All of these "naturalized" school attitudes are full of moral possibilities. The school must contrive with pointed and organized effort to make these moral situations seem natural and innate not arbitrary, literal, externally imposed and hence artificial. Self-discipline, and hence school discipline consists in so contriving that all revelations of life situations where moral forces are at work shall be such that pupils gradually and naturally acquire the attitude of looking upon moral forces as just as real and as inexorable as all other of nature's forces are real and inexorable.

From the point then of school discipline the school is primarily an institution for reproducing the forces and environment of typical communities and for gradually developing in accord with this controlled social school atmostphere the "working structures" of individualities found in the pupils. As C. E. Rugh has pointed out, the encrusted school tradition of inculcating the Seven School Virtues is not only insufficient but is actually misleading. All these virtues can be used by a successful bank robber in a single robbery. The public school pupil comes not primarily to learn but to practise virtue, not to be "overlaid" with a moral veneer, however solidly, but to evolve, through the modern school's reproduction of life's very acts of choice and of self-control in various intercourse with his fellows, that fundamental consciousness of active workable rightness which we call character.

C. H. J.

"General Science" in Junior High Schools

At the request of the editor the author of the leading contribution on science in the junior-senior high school work in this issue has attempted to present the comparative status of science instruction advocated in secondary education in 1893 with the status he prefers it to attain in 1916. We shall later publish much briefer similar statements regarding this changing status of other important secondary subjects.

What may be styled the Committee of Ten's "curriculum attitude" represents an educational point of view from which nowadays, strategically, it is good to take our departure in any projected program of curriculum development. The author of the article referred to gets solace and comfort by escaping from our present day malodorous atmosphere of "incertitude and mental fog" to the pure historic air where he can exhale, with the aid of his kindly historic imagination, "the fragrance of certitude and clarity" which still clings to this marvelously unanimous and definite 1913 document of recommended national educational procedure.

The article raises vital questions.

Is the author's conception of a school's curriculum sound? Are or are not definiteness and uniqueness of aim essential to such a subject as science in either junior or senior high schools. Can a subject be socially or even narrowly pedagogically effective if "there will be no special aim apart from the general (disciplinary?) aims of all school work etc." Does or does not even the junior high school, with its partially differentiated offerings for its different pupil groups, imply just these distinctive functionings for the different reorganized subjects in its curriculums?

Again, is the author's three-fold classification of the various new courses in general science adequate or correctly interpretive?

As to the time element in the 7th, 8th, and 9th years, does science work merit the proportion awarded it, all other distinctive claims for other sorts of materials considered? Shall the policy of "required science" fix itself upon the junior high school and help to establish rigidity in the curriculum, while "elective science" shall characterize the curriculum policy of the senior high school?

Does the author really grasp the "junior high school idea," not as a period definitely marked off for "covering ground" in clearly differentiated fields of natural science, social science, language, mechanic arts, domestic economy, etc., but rather as the three-year section of our public school system which, with its newly developed types of courses, methods of teaching, policy of school management, and intensive study of the individualities of pupils, seeks to direct pupils in finding themselves by exploiting their various possible powers or aptitudes,—leaving to the senior high school the function of specially preparing them for a definite pursuit or for definite continuation of education in higher institutions? Is or is not the "junior high school idea" just our at-present clumsy and lumbering but unmistakable attempt to shunt our public educational machinery during this particular three-year period into the field of diagnosing and exploiting, by means of more various kinds of trainings, the individualities of pupils?

If this is so, should we not on principle favor these "general" courses, such as "general mathematics," "general science," "general social science" (including of course matters of history incidentally but also community activities, etc.), "general manual training" (project work with some modern industrial signifiance, often co-operative, rather than the traditional formal exercises or trivial projects or than the extended trainings in special trade skills carried each to a mechanical trade standard of perfection), as the best method of organizing the content of typical junior high school courses?

The author referred to above has been admirably clear on these debatable points. Is his educational philosophy sound?

C. H. J.

Democracy in the Internal Government of the High School

MISS Eichhorn's investigation of cheating in high school which appears elsewhere in this issue illustrates a commendable type of professional study of high school teachers in service. This study was one of eight that were carried on by members of the Decatur high school faculty last year. It takes no effort of the imagination to appreciate the lively discussions which such an analysis of moral conditions and moral attitudes of one's own high school pupils as the author's must have precipitated in the faculty meetings. These particular teachers' meetings were, as is customary in this school, managed by a committee of the faculty appointed by the principal. The present report is an example of professional spirit and originality among wide-awake high school teachers which such a democratic faculty organization will bring forth and foster.

A member of the Decatur High School has furnished the editor with an interesting account of one of the profoundly educational results of this study. Members of the student councils became very much interested in the purported moral situation as revealed by this investigation. On their own initiative they requested permission of the principal to invite the author, Miss Eichhorn, to read the paper before the members of the two councils. This request was of course granted, and a meeting for this purpose was arranged for the morning hours. Out of this meeting came a vigorous student campaign for honor in school work. This campaign was planned and carried out entirely by the students.

We have here an example of an organization of the student body for genuine and effective participation in school government which speaks more loudly than a thousand either "conservative" or "radical" arguments for or against methods of moral training or methods of school discipline. The students of the Decatur High School have *empirical* knowledge of civic responsibility and a vivid sense of civic honor.

C. H. J.

BOOK NOTES

(*More extended reviews of some of these books may be expected in later issues.*)

GEORGE H. BETTS. *Social Principles of Education.* New York: Charles Scribner's Sons, 1912. Pp. xvii, 318.

Mr. Betts takes as the type of education toward which we are working today that which aims at social efficiency. He declines to go into a full discussion of the philosophy of education, limiting himself to the philosophical principles underlying the social aspect. The topics which he treats; each one, he says, naturally raising the next, are the individual and society, the aim of education, the social process, the powers and capacities of the individual, the mode of individual development, and the curriculum and social organization of the school, in this order of treatment.

HENRY S. CURTIS. *Play and Recreation for the Open Country.* New York: Ginn and Company, 1914. Pages xvi, 265.

Mr. Curtis, in his introduction, draws a contrast between life on the farm now and in the earlier time when new settlements were being made. In the early days the adventure and the novelty of a new country automatically supplied all necessary recreation. Now the farms are cleared, the fields are cultivated by machinery, and the process of piling up wealth goes on in the same way from year to year. In this steady and more or less monotonous pursuit of material wealth Mr. Curtis sees a great need for systematically planned provision for recreation.

In the body of the book a more hopeful side of the problem is presented. Mr. Curtis traces the playground movement and pictures some very encouraging attempts that are being made throughout the country to infuse more of a social and playful spirit into the boys and girls of the country, and to provide safe and wholesome means for its expression.

The organization of social centers, the boy scout movement, the camp fire girls clubs, and similar organizations are well described and interesting cuts accompany these accounts, showing just what kinds of recreation can be made exceedingly enjoyable, and incidentally very profitable to the pupil.

Mr. Curtis was formerly Secretary and Vice President of the Playground Association of America, and has held other important positions connected with the recreation movement in this country. His long and close personal touch with the movement and his very live interest in it enable him to speak with authority in this book.

E. P. Cubberley. *The Portland Survey.* (School Efficiency Series, P. H. Hanus, Editor). New York: World Book Company, 1915. Pp. 441.

We are glad to see this survey material put in handy and more permanent form. The Portland Survey is too well-known to be reviewed again. It contains fundamental discussions of practically all the main school questions by authors whose views are respected and whose educational achievements are unquestioned. It is somewhat gratuitous to point out especially any particular portions of the volume, but, in addition to the first six chapters by Professor Cubberley himself we have returned most frequently to the masterly treatments of instructional needs and curriculum recommendations found in chapters VIII, IX, X, and XI, written by the two brilliant and progressive school superintendents, Spaulding of Minneapolis and Francis of Los Angeles.

William L. Ettinger. *A Report on the Organization and Extension of Prevocational Training in Elementary Schools.* 1915. New York. Department of Education. Pp. 80.

This is an extremely interesting and valuable report of an experiment in administering six differentiated intermediate school curriculums in New York City. One who desires to know what is meant by prevocational education in the junior high school (of the upper grades) should read the careful account given here. Schedules are given, explanatory circulars addressed to parents are inserted, units of instruction for each of the courses in each of the differentiated curriculums are minutely outlined, administrative changes are adequately explained and the relation of all this work and experiment to the Gary adaptations proposed for other parts of the city in candidly and forcefully discussed. Altogether it is one of the most valuable sources available for one who wishes to see prevocational work of a clearly defined character satisfactorily discussed from a single point of view. Incidentally one becomes acquainted with the Ettinger-Wirt controversy.

Harold W. Folgt. *Efficiency and Preparation of Rural School Teachers.* Washington: U. S. Bureau of Education—Bulletin, 1914, No. 49.

The author combats the old view that anyone with reasonable academic training can teach a country school. Just as we need a person with an intimate and extensive knowledge of Latin or of Mathematics to teach those subjects, so we need a teacher who is familiar with rural conditions and rural needs to be a competent rural school teacher. The teacher must know those things that the farm boy needs to know in order to make of himself a good farmer.

By means of 6000 questionnaires sent out to rural school teachers and by communication with normal schools and agricultural colleges, the author has endeavored to find out what training the present teachers have had and what training is being provided for the teachers of the future.

The information gathered through these investigations is clearly and interestingly set forth in this bulletin.

ISRAEL EDWIN GOLDWASSER. *Method and Methods in the Teaching of English.* New York: D. C. Heath and Company. Pp. viii, 301.

The author, as the title indicates, wishes to have method supplant methods in the teaching of English. He wishes a clearer general recognition of the conditions under which teachers labor. We, and especially teachers, he says, do not realize three very important facts. In the first place, in cities especially, English is to a very large proportion of the pupils a foreign language. The purpose in teaching English should not be primarily to have pupils gain speed in reading words or explaining isolated passages, but to give him the enriched experience that the content makes possible. The content must be presented in such an interesting way that the pupils will master the technique of reading as a means to an understanding of the material, putting the process on the plane of habit and leaving consciousness free for the appreciation of the thought.

With these general rules to guide him, the author proceeds to discuss his subject under the following heads: primary reading, overcoming defects in speech, the reading lesson, reading to a class, study of the masterpiece, the oral reproduction of stories, memory gems, spelling, dictation, composition, and grammar.

W. H. HECK. *The Health of School Children.* (Compiled from Contributions from American Medical Journals July, 1913. to July, 1914.) Bulletin No. 4, United States Bureau of Education. Washington: Government Printing Office, 1915. Pp. 160.

A reading of these compilations succeeds in giving one the impression of the importance of the health problem of the schools.

ANNA CHARLOTTE HEDGES. *Wage Worth of School Training.* New York. Teachers College Contributions to Education, No. 70.

This study is based on the information gathered from visits to textile manufacturing plants where 20,000 girls are employed, conferring with foremen and managers, and questioning 700 girls by personal interviews and questionnaires.

Miss Hedges points out clearly the inadequate training that these girls have had and the great need for definite instruction in the factory, in co-operation with the school, by means of part-time classes. Not only do these girls, who are largely foreigners, need a better mastery of our language, but they need also a truer conception of their sphere of work and of their moral and civic obligations.

ROBERT W. HEGNER. *Practical Zoölogy.* NewYork: The Macmillan Co., 1915. Pp. 495. $1.40.

This book has the features of an excellent text in Zoölogy for high school pupils. There is sufficient material for an entire year's work but the chapters are so arranged with reference to eliminations that it is available if less time is to be spent upon the subject. Apparently the author's conception of a good course in this subject is a combination of general knowledge of animals and of zoölogical principles with discussions of the relations of these animals to man. Common animals of economic importance constitute purposely most of the illustrative material. Photographs of living animals in natural environments add to the appearance and interest of the volume.

C. HANFORD HENDERSON. *What Is It to Be Educated.* Boston: Houghton Mifflin Co., 1914. Pp. xiii, 462. $1.50.

This book is good reading but does not represent a definite attempt to outline a formal theory of education. It attempts to portray concretely the educated man—the "human thoroughbred." Human graciousness and charm are adequate ends of high school education. The author opposes all definite schemes to make the boy a specialist whether in language, in docile citizenship, in smug shopkeeping, or in incipient artisanry.

There should be extremely informal education up to the 14th year, not even reading being very important. For this period he sketches a broad training in the arts of swimming, of riding, the arts of music, of drawing, industrial and domestic arts and the art of using tools. The author, however, opposes formal manual training and thinks modern athletics contemptible. The high school period from fourteen to seventeen should be devoted seriously to scholarship and intellectual culture. The present high school prematurely destroys childhood. . At seventeen travel becomes critically important. The Western boy should know the East and the Eastern boy the West. The relatively few should go on to college.

It is all a Platonic scheme, we are afraid, but it is fresh and vivid and in many respects wholesome.

EDWARD E. HOLTON. *Shop Mathematics.* Springfield, Mass.: The Taylor-Holden Co., 1912. Pp. 219.

This text is for use in technical and trade schools. Its main feature is the collection of practical shop problems arising from the long experience of the author as draftsman and shop foreman as well as instructor in shop work.

Edith Long and W. C. Brenke. *Algebra First Course: Correlated Mathematics for Secondary Schools.* New York: The Century Co., 1913. Pp. 283.

The aim of this book is the systematic correlation of Algebra with Geometry and a presentation in simple style. Constructive exercises from Geometry are introduced but there is no attempt at formal proof. Simple experiments and graphic representation make the work concrete.

Robert A. Lyster. *School Hygiene.* Baltimore: Warwick and York, Inc. Pp. 388. $1.15.

The author states that the ideal of public health is to be secured largely through the public school. This is to be accomplished not so much by laying down rules of health in formal textbook instruction, as teachers have done, but by showing the pupils how they should live and actually seeing that they do so live. In order to have this purpose realized it seems necessary that teachers themselves know the important principles of healthful living. The author says that he would have every public school teacher in the same relation to the health officer as the nurse in a hospital is to the hospital surgeon. The information necessary to fit one for this kind of service the author attempts to present in this book. He goes fully into the details of sane and healthful building and equipment and discusses the diseases and defects that grow out of ill-fitting desks, poor lights, etc. A very comprehensive list of children's diseases and disorders is given, together with short descriptions of each, its causes, distinguishing features, and its results upon the physical and mental accomplishment of the child. Interesting statistics regarding infant and child mortality are given. Of equal or even more interest are his comparisons of hygienic conditions and school training in England with those of other countries. England is shown to compare very poorly with Germany and some other European countries in its school training in hygiene and in its work of promoting sanitary conditions in school and out.

The writer is an Englishman and the book is written for the people of England, primarily. In his references to conditions in this country he shows often a lack of intimate knowledge of conditions here. This is usually to the advantage of America, as he frequently takes the advanced work of a few of the larger cities as typical of conditions throughout the land. This is decidedly a minor criticism, as the principles enunciated are universally applicable.

It may be objected that the book attempts to be too comprehensive, In the present writer's opinion, no one will, or will need to, read all of the book, but nearly every one will find parts of it interesting and helpful.

ROBERT A. LYSTER. *Text-book of Hygiene for Teachers.* Baltimore: Warwick and York. Pp. 500. Price, $1.50.

This is an earlier impression of the author's School Hygiene to be reviewed later, and is a somewhat fuller treatment of practically the same topics covered there.

JOSEPH MCCABE. *The Principles of Evolution.* Baltimore: Warwick and York, Inc. Pp. 264. Price, 40 cents.

Mr. McCabe discusses the theories of Darwin, Lamark, Weismann, and the other more important writers on the subject of evolution and heredity, going at some length into their investigations and proofs. Evolution, he asserts, has become so closely associated with certain of its great advocates (chiefly Darwin) that people, after finding defects in a particular theory or theories, tend to reject the whole evolutionary idea as unsound. He freely acknowledges that no final and complete explanation has yet been produced by evolutionists for all the facts and conditions of life, but he claims that evolution, even in its incompleteness, furnishes the only reasonable solution and can be contested only on the grounds of superstition or prejudice.

In his last chapter, on the Philosophy of Evolution, Mr. McCabe takes occasion to demolish Bergson's theory of instinct in somewhat summary fashion.

PATRICK J. MCCORMICK. *History of Education.* The Catholic Edcation Press, Washington, D. C., 1915. Pp. xxxiv, 401.

A full review of this interesting and important contribution to the history of education appears among the signed reviews of the October issue. The treatment from the point of view of a Catholic and one who is familiar with some phases of the field not now adequately treated in the available texts, is a welcome addition to our literature of this general field. Degrees of emphasis on men and movements in the broad fields of educational history reveal a writer's fundamental philosophy of education. The point of view represented by the author of this particular volume should be familiar to all students of the history of education.

GEORGE C. MYERS. *Problems of Vocational Education in Germany, with Special Application to Conditions in the United States.* Washington: U. S. Bureau of Education, Bulletin No. 33, 1915. Pp. 42.

The title of this bulletin leads us to expect too much by way of concrete applications of German educational ideas and practices. There are at best only casual suggestions in this direction. The topics which it does consider, however, are interesting. They are (1) continuation schools for boys in unskilled occupations in Berlin, (2) continuation schools for girls and women in Berlin, (3) the training of industrial continuation-school teachers in Prussia and (4) dual control in industrial education in Prussia. Those who have followed the sharp political and educational controversies over unit-dual control of vocational education in Illinois and in other states will find the last named topic especially interesting and valuable. The author's treatment of this subject is fair and open-minded which can scarcely be said of our discussions in this country as a whole. He sees advantages and disadvantages in each plan. Dual control brings the vocational school into close touch with industry but widens the gap between industry and the common school. Further, dual control is by nature opposed to vocational guidance which aims to put new life into the common school and to suggest a new principle of curriculum making. Unit control, on the other hand, has a tendency to slight the practical side of the work though it favors the attempt to bridge the gap between the school and industrial life.

GEORGE WILLIAM PEASE. *An Outline of a Bible School Curriculum.* Chicago: The University of Chicago Press, 1909. Pp. xii, 418.

This is the most thorough-going example of Sunday-school curriculum making which is available for those directors of Sunday-schools who are willing to be guided by what we may term the science of curriculum building. The author cites his authorities whenever he pretends to follow a principle of adjusting subject matter or method to any particular group of members of Sunday-school classes. He is familiar with the literature dealing with experimental evidences of nodal stages in emotional and intellectual development. In the light of tentatively established facts of the psychology of children at different stages of their growth he selects his courses, defines his curriculum outcomes, and suggests appropriate administrative procedure. Altogether the book is a good illustration of the method of curriculum making of any kind. Doubtless, in the light of investigations and experiments since, many conclusions and many of his definite plans should now be considerably modified. It is interesting to note that the author, with apparently no knowledge of the large literature concerning reorganization on the six-three-three plan, advocates just such a cycle arrangement of curriculum units for systematic religious instruction for those of ages corresponding to elementary and high school pupils.

EDWARD RUTLEDGE ROBBINS. *Robbins New Plane Geometry.* New York: American Book Co., 1915. Pp. viii, 264. $0.80.

A conservative text that seeks to present "pure" Geometry and thereby develop the reasoning power of students. There are the usual five books. Commendable features are the original exercises, which are practical, carefully graded, and independent; discussions of original constructions; summaries; historical notes; attractive open pages.

The School and the Immigrant. New York: Department of Education—The City of New York. Division of Reference and Research, 1915. Publication No. 11.

Under the title of "The School and the Immigrant" are discussed means of transforming the tremendous numbers of foreigners who are yearly arriving in America into competent and responsible American citizens. The shirking of this responsibility is shown by the large number of medium-sized cities which make no provision for night schools where the adult immigrant can familiarize himself with the American language and with American customs, laws, and institutions.

The Americanization of the foreigners is laid down as the aim of all public provision for him in America. In this process the two most fundamental requirements are a reasonable command of the English language and a knowledge of our laws and institutions which will at least enable him to avoid conflict with civil authorities. Methods are proposed for teaching English speaking, reading, and writing, and community civics. Co-operation of the employers of labor with the public-school system is strongly urged. The relation of the immigrant's vocation to his instruction and his social and recreational life are other topics discussed.

In furtherance of the early Americanization idea, it is urged that immigrants be immediately acquainted with the regulations governing naturalization and be made citizens in the formal sense as early as possible. It is not sufficient to merely provide opportunities for the foreign element; they must be urged to take advantage of these opportunities in order that the average of American citizenship may not be lowered in the process of assimilation.

H. H. SCHROEDER. *The Psychology of Conduct.* Chicago: Row, Peterson, and Company, 1911. Pages 287.

This little book is based on ten years' experience in the class room, the author states. "Its chief concern," he says, "is to trace conduct to its sources, and to show briefly how the principles evolved may be applied to the actual work of teaching." Numerous quotations are found from Kant, in the author's attempt to trace the historical development of the problem of moral education.

The author expressly disclaims any particular originality in this work. He offers it as an aid to teachers rather than to specialists.

EDGAR SCHUSTER. *Eugenics.* Baltimore: Warwick and York, Inc. Pp. 264. Price, 40 cents.

The author discusses interestingly the past and present views on the subject of heredity, going into Galton's, Mendel's, and his own later investigations in considerable detail. He discussed sanely the purposes and the principles of Eugenics, disapproving the extreme legislation which has been proposed by some of its advocates. The best results are to come, he says, by enlightening the people generally along eugenic and sanitary lines. He answers satisfactorily, so far as his type of Eugenics is concerned, the sentimental objections which have been raised to the Eugenic idea. He pleads for a clearer sex-consciousness and sex-conscience, and intimates that this could be secured by the addition of some kind of course in Eugenics to the curriculums of the public schools.

W. Stern. *The Psychological Methods of Testing Intelligence.* (Tran. by G. M. Whipple.) Baltimore: Warwick and York, Inc., 1914. Pp. 160. $1.25.

In this monograph Dr. Stern has not merely sought to prepare a general summary of the methods and results of intelligence testing, but has also offered constructive criticisms of the methods, has made proposals for their modification and development, and has discussed in some detail the results that accrue to the pedagogy of the normal and of the subnormal child. The general plan of the book includes an introductory section upon the nature of intelligence and the problem set by attempting to measure it and an exposition of tests of intelligence under three main divisions, (*a*) single tests and series of tests, (*b*) the principle of age-graduation (Binet-Simon tests), and (*c*) correlation and estimation methods. The treatment is designed to appeal to a wide circle of readers outside the psychological profession, especially to teachers of normal and of backward children, to school administrative authorities, to school physicians and to specialists in nervous and in children's diseases. The book will convince these readers of the great importance and fruitfulness of the psychologist's methods and at the same time show them the difficulties in the work and the gaps in its present status so plainly as to prevent overhasty attempts at practical application.

J. S. Stone and J. F. Millis. *Elementary Geometry. Plane and Solid.* Chicago: Benj. H. Sanborn & Co., 1914. Pp. 395.

The authors have departed from the ways of formal Geometry and give us a text written upon the lines of reform. (1) The subject is vitalized by teaching it in its relation to the practical uses of real life. (2) Subject matter is rearranged according to psychological principles. (3) Methods of presentation are improved. The exercises are of great interest, being drawn from surveying, bridge building, railroad construction, and architecture in sufficient quantities to supply a practical motive for the student. Geometric drawing and field work are also provided for.

The Teaching of Community Civics. Washington: United States Bureau of Education. Bulletin, 1915. No. 23.

This fifty-five page booklet "prepared by a special committee of the Commission on the Reorganization of Secondary Education, National Education Association," treats in detail the aims, method, and content of a course in community civics for the seventh and eighth grades and for the first year of the high school.

"The significance of the term Community Civics does not lie in its geographical implications, but applies this point of view to the national community as well." The purpose in dealing with the immediate community first, in other words, is not to lay especial stress upon the smaller social group, but to connect more easily with the interests and the present knowledge of the pupil.

The method advocated is, to use popular psychological terms, functional rather than structural. The primary emphasis is to be put upon the work of civic agencies as they affect the lives of the pupils. The pupil must be made to feel his debt to social agencies, his dependence upon them, and his responsibility for supporting and forwarding the purposes toward which they aim. The machinery of government is no longer to be studied as an end in itself, but only incidentally as a means of carrying out the measures necessary for the fulfillment of the large social purposes.

The bulletin suggests the approach to, and the further treatment of, each of the large topics which come under the head of community civics, Health, Education, Civic Beauty, etc. Concrete examples are given showing how pupils after courses like the above outlined have immediately effected very considerable improvement in their city along the lines of sanitation and civic beauty.

The bulletin strikes one as a very wholesome and pertinent discussion of a heretofore rather poorly taught subject.

JOHN H. WALSH. *Practical Methods in Arithmetic.* New York: D. C. Heath & Co. Pp. iv, 395.

In the belief that most young teachers follow long and tortuous methods where the simplest and shortest method would also be the best, the author endeavors to outline simple, clear, and adequate methods of teaching arithmetic in the first eight grades. The author hopes that his book will help especially young normal school graduates who, he says, are apt to confuse what they have been taught in preparation for teaching and what they are to teach. To use an illustration, somewhat exaggerated perhaps, he says that some teachers spend a great deal of time teaching the pupils the reasons for, and the underlying principles of, addition, while they should be training the pupil in the manipulation of figures.

The book is divided into four parts, each part being devoted to the teaching of arithmetic in two consecutive grades.

J. WELTON AND F. G. BLANFORD. *Principles and Methods of Moral Training, with special reference to School Discipline.* Baltimore: Warwick and York, Inc., 1914. Pp. 260. $1.10.

In discipline even more than in teaching "it is the spirit that quickeneth, the flesh profiteth nothing." Discipline is, therefore, treated primarily from the point of view of its effect on the child; secondarily, and by way of illustration, from the point of view of its exercise by the teacher. The personality and temperament of the teacher count for so much, and the success of the work is so dependent on the personal relation between him and his pupils, that the adoption by one teacher of the detailed plans and methods of another is fraught with considerable danger. There is no royal road to discipline, there can be no cut-and-dried rules even for maintaining order, and this book does not offer a *vade mecum* to teachers who are incompetent in these matters.

The authors have, however, indicated modes of dealing with boys which they have found to be effective, but the readers must work out for himself or herself his or her own lines of treatment. The author's joint experience has covered day schools and boarding schools of almost every type for boys, but it has of necessity been much smaller in the sphere of girls' schools. What is here said about boys may require some modification, therefore, when applied to girls. But the modification is only of detail: the general principles are unaffected by the difference of sex.

EVA WILKINS. *The Weaver's Children.* New York: American Book Co., 1914. Pp. 208.

Into this "True Story of Pioneering Times" the author has woven many interesting illustrations of the life of 1840. There are descriptions of Henry Clay's visit to Clayville, the "pleasant and comfortable journey" of two weeks across the state of New York, the first ride on steam cars, the life in mills and factories, and the schools, the manners, and the pleasures of seventy years ago. The story is attractively told and the book is well adapted for use as a supplementary text reader in the grades.

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The particular merit of this new text book in Ethics consists in the fact that by approaching the subject from the social standpoint, morality is given a very rich and full content. After all is said and done, morality is one of the biggest and most significant facts of life, and Dr. Coffin has succeeded admirably in giving it concreteness and definiteness, and in making its claims real and vital. The author holds that the moral situation is always a social situation, and that moral conduct is the reaction of a self to a vital social problem. Accordingly, the two factors upon which ethical theory is based are selfhood or personality, and the moral situations which arise in connection with the institutional life of society. The first three chapters of the book are devoted to the development of the moral criterion—the Socialized Conscience; this is approached by way of both psychology and sociology. The five succeeding chapters discuss, in the light of the moral criterion, the most significant of the moral problems which arise in connection with the great social institutions: namely, the home, the school, the vocation, the state, and the church. A final chapter gathers up the conclusions of both lines of enquiry and states them in the form of an ideal.

The book is particularly well adapted for those who are just beginning the study of ethics, because the method is scientific rather than philosophical, and because the presentation is non-technical; while for those who desire to go more fully into the problem, the Topics and Questions for Further Study, together with the References at the close of each chapter will prove exceedingly suggestive and helpful. The teacher of Ethics who desires to give our prospective teachers, lawyers, physicians, merchants, and other leaders, a point of view which will assist them in their future task of helping to solve our pressing social and moral problems, will find this text an indispensible aid.

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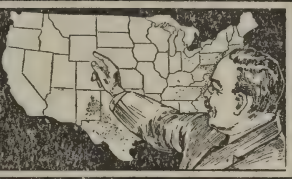

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